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Emotions in remote or hybrid work in software development teams

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ABSTRACT

In response to the SARS-CoV-2 pandemic, software organizations rapidly transitioned to 100% remote work, subsequently embracing a prevalent hybrid model. This study entails a Systematic Literature Review (SLR) that delves into the emotional experiences of software professionals in remote or hybrid work settings. Through a targeted Scopus search, we identified and analyzed 18 pertinent articles, uncovering 55 distinct emotions and well-being aspects. Well-being emerged as the most explored topic, with notable attention to anxiety, motivation, and feelings of overwork, stress, and boredom.

While research interest spans across Europe, North America, and Asia, South America, notably, exhibited limited activity. The findings underscore the heightened interest in emotions and well-being during the pandemic for remote workers in the software industry. As a response, our study aims to gauge the sentiments of software company workers operating in a hybrid mode through a survey conducted in two Uruguayan companies. A summary report was created for each company, detailing how employees felt about working from home or in a hybrid setup.

Various positive aspects and challenges were reported for both work scenarios. For instance, the social interaction and team building facilitated by office work are highly valued by a significant number of workers, often leading to feelings of happiness and satisfaction. However, this comes at the cost of fatigue and longer working days due to commuting. On the other hand, remote work is appreciated for its comfort and flexible time management, but it is susceptible to interference from home distractions. We underscore the importance of consistently providing individuals with the opportunity to express themselves to foster a healthy work environment.

Keywords:
Emotions, Well-being, Remote work, Hybrid work, Software Teams, Software Industry.

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Chapter 1

Introduction

With the arrival of the SARS-CoV-2 virus and the need to avoid contact with other people to prevent its spread, many organizations chose or were forced to have their employees working 100% remotely. This situation was no the exception for software companies. For example, an international software company with hundreds of teams working in development offices in Sweden, the UK and USA, instructed to their employees in all locations to work from home, prohibiting access to the office spaces, in March 2020 (Šmite et al., 2023).

There are many articles that study the impact on employees in the sector working remotely. For example, an analysis of challenges and advantages in agile teams working from home (Ozkan et al., 2022); a literature review on lessons learned and predictions for the future, researching how the welfare of software professionals has been affected (Nolan et al., 2021); a Microsoft investigation that studied some of their workers, daily over the first ten weeks of working from home, encountering some challenges and analyzing actions taken to improve their workers' well-being (Butler and Jaffe, 2021); an investigation of the effects of the pandemic on developers' well-being and productivity (Ralph et al., 2020).

Being forced to work remotely has provoked various challenges such as coordination, collaboration, communication, productivity, software quality among others (Ozkan et al., 2022). In spite of that, there is an example where clear evidence was not found that remote work caused an increase on technical debt (Zabardast et al., 2022).

However, all these studies were conducted during a common external situ-

ation, where people have basic needs as part of their main objective such as: job security, economic stability and physical health.

Now, almost all countries have lifted the state of emergency and have suggested resuming activities as normal. For example, in Uruguay, the government announced the ending of the state of emergency caused by the SARS-CoV-2 virus on April 5, 2022.[1] However, as far as we know from different colleagues and in conversations with different software companies, they are studying the possibility or have even already decided to maintain an hybrid regime, where some days a week collaborators go to the office, but several others they continue to work from home; as well as the possibility of working 100% remotely in some cases. For example, the IT observatory[2] created by the CUTI[3] in Uruguay in association with many Uruguayan IT companies, has observed that by the end of 2021, 75% of the studied organizations had a hybrid regime and 22% were working fully remote.[4] Furthermore, Gartner reported that "In 2022, 31% of all workers worldwide will be remote (a mix of hybrid and fully remote)" («Gartner Forecasts 51% of Global Knowledge Workers Will Be Remote by the End of 2021», 2021).

Moreover, teleworking is not something recent, for instance, as early as 1998, there were studies examining the characteristics that managers require to effectively lead remote workers (Staples et al., 1998).

On the other hand, the well-being of employees is a topic of interest, considering that "low levels of well-being have been negatively associated with employee performance at work" (Sonnentag, 2015), and high levels of employee well-being benefit both employees themselves and their employers, as they maximize the chance of success (Giorgi et al., 2017).

But, what is well-being? The notion of well-being is the notion of what makes a person's life good for the person who lives that life (Raz, 2004). To understand what well-being consists of, we first need to find which things can affect a person's well-being, improving or decreasing it. In other words, which things are good or bad for that person that are not good or bad by itself. This could be a list of items that are categorized as positively or negatively affecting

[1]The Uruguayan government's web page https://www.gub.uy/sistema-nacional-emergencias/comunicacion/noticias/fin-emergencia-nacional-sanitaria

[2]https://cuti.org.uy/observatorio-ti

[3]https://cuti.org.uy

[4]https://observatorioti.cuti.org.uy/wp-content/uploads/2022/05/Informe-Monitor_-octubre-diciembre.pdf

the well-being. Then, we need to understand why the element can improve or decrease the person's well-being.

There are three main theories of well-being (Parfit, 1984): Mental State Theories, Preference Satisfaction Theories, and Objectivist Theories. The Mental State Theories are based on that the mental states are the only things that are not good or bad by itself. And what makes them affect positively or negatively the well-being is whether they are enjoyable or not. The Preference Satisfaction Theories believe that something affects a person's well-being positively if its occurrence satisfies the person's preferences. However, according to objectivist theories, an individual's well-being is independent from the individual's mental state. For example, a list of ten essential capabilities that are relevant for each individual's well-being have been identified: life; bodily health; bodily integrity; senses, imagination and thought; emotions; practical reason; affiliation; relationships with other species; play; and control over one's environment. According to the author, the capabilities are freedoms to achieve alternative combinations of functioning, that is, combinations of beings and doing (Nussbaum, 2000).

Evidence indicates that the happiest software developers exhibit significantly enhanced analytical problem-solving skills (Graziotin et al., 2014). While the study of emotions has garnered increased attention from the research community in recent years, managing these emotions effectively remains a practical challenge (Sánchez-Gordón and Colomo-Palacios, 2019).

It is natural to think that a person's emotions affect their well-being. But, what are emotions? There are different theories that try to define them. For example, emotions have been defined as kinds of feelings, as conative states or as cognitive states. Between the cognitive states definitions, there are some theories that define emotions as being or necessarily involving: evaluative judgements or evaluative thoughts or construals (Whiting, 2011).

Emotions are complex psychological phenomena that influence human behavior and cognition. Emotions can be classified into different groups based on their characteristics, such as valence, arousal, intensity and duration(Mehrabian, 1996). Some groups of emotions are:

- Basic emotions: These are universal and innate emotions that are shared by all humans and some animals. They include anger, fear, disgust, sadness, joy and surprise. Basic emotions are usually triggered by external

stimuli and have distinct facial expressions and physiological responses.

- Secondary emotions: These are derived from basic emotions and involve cognitive appraisal and social learning. They include guilt, shame, pride, envy, jealousy, gratitude, and love. Secondary emotions are more complex and context-dependent than basic emotions.
- Mixed emotions: These are combinations of two or more basic or secondary emotions that occur simultaneously or in rapid succession. They include awe, nostalgia, schadenfreude, and bittersweetness. Mixed emotions reflect the richness and diversity of human experience and can have positive or negative effects on well-being.

Emotions play a vital role in software engineering (SE), as SE is a social and creative activity that involves human interaction and problem-solving. Software developers experience a wide range of emotions throughout the software development process, which can affect their productivity, quality, satisfaction, motivation and well-being.

However, there are other points of view. For example, it is stated that "the causal and epistemic relation between emotions and well-being is much less strong than is commonly thought" (Tappolet and Rossi, 2015).

A Systematic Literature Review (SLR) published in 2019, examined the empirical studies on software developers' emotions published between 2004 and 2018. The SLR identified primary studies that used different approaches to study the emotions of software developers, such as discrete emotions (e.g., anger, fear), dimensional emotions (e.g., valence, arousal), self-reported mood instruments (e.g., SAM, PANAS), physiological measures (e.g., heart rate, perspiration), behavioral measures (e.g., keyboard use), and sentiment analysis tools (e.g., machine-learning-based and lexical-based) (Sánchez-Gordón and Colomo-Palacios, 2019).

The objectives of this study are to understand the emotions and well-being of remote and hybrid software workers, and the current situation in two Uruguayan software companies. To achieve the first objective, we conducted a Systematic Mapping Study (SMS) focused on emotions among software workers, including those in remote and hybrid work settings. The SMS explores and analyzes the existing research on the emotional experiences of software professionals working remotely or in a hybrid model. Through this examination of the literature, we aim to gain insights into the factors affecting emotions,

the impact of remote and hybrid work on emotional well-being, and potential strategies for enhancing emotional experiences in these work arrangements.

To achieve the second objective, we design and conducted a survey investigation to assess the emotional state of software workers, including those who work remotely and those who follow a hybrid work model. This survey aims to provide a comprehensive understanding of the current emotional experiences, challenges and opportunities faced by software professionals in the context of remote and hybrid work within the software industry in two Uruguayan software companies. By gathering this data, we aim to analyze and evaluate the emotional well-being of software professionals, regardless of their remote or hybrid work arrangements, and identify potential areas for improvement.

The findings from both the systematic mapping study and the survey investigation will contribute to our understanding of emotions in software workers engaged in remote and hybrid work settings, providing insights and recommendations for organizations to create supportive and productive environments for their software teams. This research seeks to shed light on the emotional aspects of remote and hybrid work in the software industry and contribute to the development of strategies and policies that foster positive emotional well-being among software professionals in Uruguay, regardless of their work location.

Chapter 2

Feelings and emotions in hybrid and remote software workers: a systematic mapping study

In order to gain a comprehensive understanding of the current evidence about emotions in remote or hybrid work in SE, we conducted a structured Systematic Mapping Study (SMS). The SMS allows us to explore the existing body of research and identify key findings, trends, and research gaps regarding the topic under investigation. The findings from the SMS will serve as a valuable resource in shaping future studies and provide a context for further investigation and analysis.

2.1. Research questions

The aim of this section is to comprehensively examine the state of the art regarding the emotions experienced by individuals working fully or partially remotely in software engineering teams. To accomplish this, we have formulated the following research questions:

Q1: What emotions have previous studies addressed or investigated concerning individuals working fully or partially remotely in software engineering teams? By identifying a list of emotions explored in prior research, we can determine which emotions have received more attention within software engineering teams.

Q2: Which factors have been reported to positively or negatively affect the

emotions and well-being of workers? Additionally, in what context were these factors measured? Were the data collected before the existence of the COVID-19 pandemic, during the pandemic restrictions, or after the restrictions were lifted? It is crucial to compile a comprehensive list of factors and variables that have been identified as potential influencers of emotions and well-being. Examples of such factors include daily physical activity and organizational support. Furthermore, understanding the context in which these factors were measured provides valuable insights into the impact of different circumstances on emotions and well-being.

Q3: What research methods have been employed in these studies to measure emotions and well-being? Obtaining knowledge about the research methods used in empirical studies is important for understanding how emotions and well-being were assessed and measured.

By addressing these research questions, we aim to establish a robust understanding of the existing literature, enabling us to identify gaps, highlight important variables and factors and determine appropriate methodologies for our own research.

2.2. Search strategy

In our pursuit of developing an effective search string, we focused on three key concepts: Software teams, Home-based work and Feelings. The first concept narrows our scope to software teams. Our research centers around individuals engaged in home-based work, which encompasses keywords such as 'Remote work,' 'WFH,' 'Work from home,', and 'Hybrid work.' Lastly, the concept of Feelings drives our goal of understanding the emotional experiences of software team members working from home.

Throughout our analysis of relevant articles, we iteratively identified and incorporated new keywords into our search string. This iterative process was repeated eleven times, culminating in the final composition of our search string.

(“Software” OR “Information Technology” OR “Agile”) AND (“Remote work” OR “Work from home” OR “Hybrid work” OR “home-based work” OR “teleworking” OR “e-work”) AND (“Feelings” OR “Effects” OR “Well-being” or “Emotions” OR “Behaviour” OR “Behavior” OR “Satisfaction”)

Due to limited resources, our search was confined to the Scopus search engine, focusing on article titles, abstracts, and keywords.

The detailed search process is described in Appendix 1.

2.3. Review process and selection criteria

The review process consists of two steps, with two reviewers involved:

Step 1: The title and abstract are reviewed to identify if the topic is relevant to our research. Relevant topics are those that analyze emotions or well-being of remote and hybrid workers in software development, as well as the identification of their behavior or needs. In this step, the first reviewer examined the title and abstract of all articles found, while the second reviewer was tasked with reading the titles and abstracts of at least 15% of the articles selected randomly on one occasion. In this study, the first reviewer was the author (Ignacio Acuña), and the second reviewer was the tutor (Diego Vallespir).

Step 2: For the articles that passed the review in Step 1, the entire article is read to finally decide if it contributes information to the SMS or not. This step was performed only by the first reviewer.

The following criteria were applied to the search process:

Inclusion criteria

- The study includes an empirical study that covers well-being or emotions perceived by remote or hybrid workers in software development

Exclusion criteria

- The article is not available in English
- The article is not reachable.

In order to ensure the reliability and consistency of the article selection and analysis process, a Kappa analysis is added.

2.4. Quality assessment

Since the topic has recently gotten more relevance, most of the studies were addressed not long ago. Then, we decided to include all documents that passed our selection criteria without doing a quality assessment of the papers.

2.5. Data extraction strategy and process

The data extraction process is executed by the first reviewer, who covered all the articles that had been included. For the selected documents we extract the following information:

- When was the study addressed? Before COVID existence, during COVID restrictions, after the restrictions were lifted.
- What was the scope of the study?
- Does it study well-being? Yes or No
- Does it analyse emotions? If yes, which emotions?
- Which factors or variables have been taken in consideration that could affect the emotions or well-being?
- Which kind of study is it? It is interesting to know if it is an online survey, interview, or other and if it was only placed once or in different instances.
- What results related to our study have they achieved?

2.6. SMS Results

The search was executed on 3rd July 2022, returning 159 articles. The reviewing process starts with Step 1, where the first reviewer reviewed the title and abstract of all articles found, while the second reviewer is tasked with reading the titles and abstracts of 30 articles picked randomly, in one occasion. From this subset, 11 articles (37% of the 30 assigned) have been selected for in-depth analysis. Concurrently, out of the same 30 articles, the first reviewer has chosen 14 articles, representing 47% of the selection, for comprehensive evaluation. All 11 articles selected by the second reviewer were included in the first reviewer's selection. The difference in the number of articles selected for review by each examiner is three, constituting 10% of the

		Reviewer 1		
		Included	**Excluded**	**Totals**
Reviewer	**Included**	11	0	11
2	**Excluded**	3	16	19
	Totals	14	16	30

Table 2.1: Kappa analysis

total. These 3 articles were discarded by the first reviewer in the next step. This structured approach ensures a thorough and equitable assessment of the extensive literature, with both reviewers contributing to the comprehensive validation process. The percentages provide transparency into the allocation of articles, allowing for an effective and collaborative validation of the literature pool within the context of the SMS.

Kappa analysis was performed to quantify the level of agreement between the two reviewers' selections. Table 2.1 shows for the 30 articles reviewed by Reviewer 1 and 2 the amount of articles included and excluded by each reviewer, resulting in a Kappa coefficient of 0.8, indicating substantial agreement between the reviewers. In this scenario, the Kappa coefficient attests to a high level of consensus in the selection of articles, bolstering the reliability of our SMS. This rigorous approach enhances the transparency and validity of the study.

The search string yielded a total of 159 articles. Following an initial assessment of the title and abstract, 48 articles were deemed suitable for a comprehensive full-text review. Unfortunately, two articles could not be located. Continuing with Step 2 of the review process, Reviewer 1 read the full text of the remaining articles and 18 were ultimately chosen for further analysis and inclusion in the study. Table 2.2 presents a reference code employed to each article for simplification.

Table 2.3 presents the year of publication, the scope countries considered in the respective studies, and the venue of each article.

2.6.1. Era of the studies

As illustrated in Figure 2.1, several studies had already explored the effects on emotions and well-being for remote workers prior to the onset of the COVID-19 pandemic. However, following the outbreak of the pandemic, there was a significant surge in interest in this area of research.

Code	Article
A1	Tokdemir, 2022
A2	Charalampous et al., 2022
A3	Saran et al., 2022
A4	Marinho et al., 2021
A5	Butler and Jaffe, 2021
A6	Russo, Hanel, et al., 2021
A7	Bulińska-Stangrecka and Bagieńska, 2021
A8	Muniswamy et al., 2021
A9	Ralph et al., 2020
A10	Lim and Teo, 2000
A11	Staples et al., 1998
A12	Neumann et al., 2022
A13	Sahai et al., 2022
A14	Ross, 2022
A15	Leger et al., 2022
A16	Russo, Hanel, et al., 2021
A17	Subha et al., 2021
A18	Weinert et al., 2014

Table 2.2: Articles selected in the SMS.

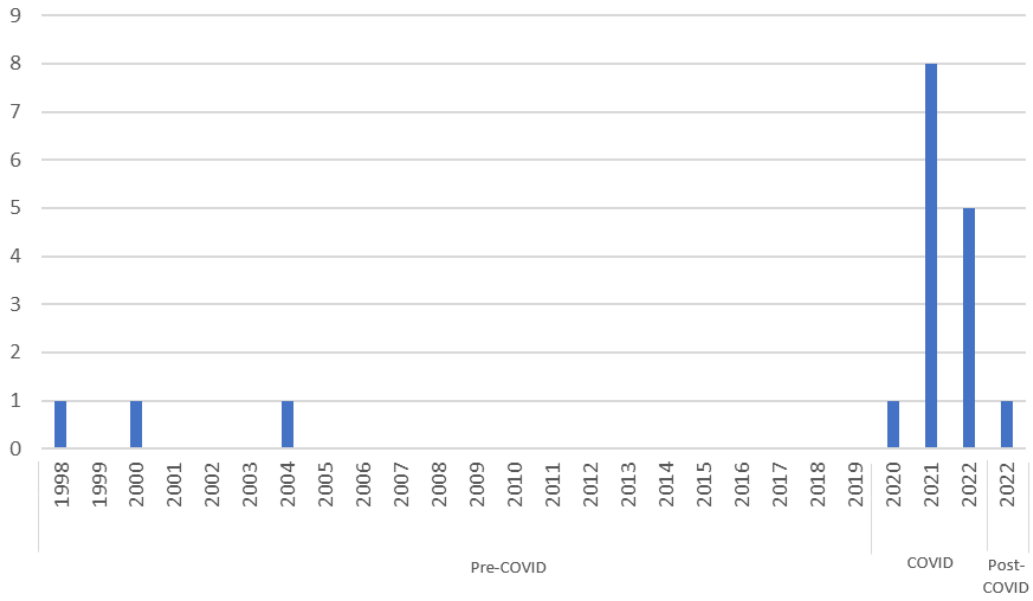

Figure 2.1: Studies per year

During the pandemic, our search identified 14 articles that met the specified criteria, reflecting the growing attention to the topic. However, as of our latest

Year	Code	Scope countries	Venue
1998	A11	North America	Journal of Computer-Mediated Communication
2000	A10	Singapore	Journal of Managerial Psychology
2014	A18	Unespecified	Conference on Computers and People Research
2020	A9	Worldwide	Empirical Software Engineering
2021	A16	UK; USA; Portugal; Poland; Italy; Canada	Empirical Software Engineering
2021	A17	India	Journal of International Women's Studies
2021	A3	India	National Journal of Community Medicine
2021	A4	Brazil	Technology in Society
2021	A5	Worldwide	International Conference on Software Engineering
2021	A6	UK; USA; Ireland; Italy	International Conference on Software Engineering
2021	A7	Poland	International Journal of Environmental Research and Public Health
2021	A8	India	International Journal of Occupational Safety and Ergonomics
2022	A1	Turkey	Journal of Systems and Software
2022	A12	Germany	International Conference on Software Engineering and Information Management
2022	A13	India	Human Systems Management
2022	A14	India	Vision: The Journal of Business Perspective
2022	A15	Worldwide	Journal of Occupational Health Psychology
2022	A2	UK; Australia	Employee Relations: The International Journal

Table 2.3: Articles properties.

search, only one article after the pandemic was found, suggesting a potential tapering of research activity in this domain after the peak of interest during the pandemic.

2.6.2. Scope of the studies

As listed in Table 2.3, the examination of emotions and well-being in remote workers has garnered significant interest across various countries. Particularly noteworthy is India in Asia, which has contributed with five research articles on the subject during the COVID pandemic. Moreover, the topic has gained traction in multiple countries in Europe and North America. However, it is

evident that Latin America has seen comparatively limited research activity, with only one article conducted in Brazil. These findings underscore the global importance of understanding the well-being of remote workers while also highlighting the need for further research in certain regions to gain a comprehensive perspective.

2.6.3. Emotions and well-being

In response of Q1, we compiled a list of emotions and feelings discussed in the studies from our selected articles. Figure 2.2 presents these emotions and feelings along with their frequency of occurrence. Since most of the articles do not delve deeply into classifying the emotions, we opted to include all identified emotions and feelings.

The concept of well-being emerged as the most extensively studied topic, with eight articles dedicated to its exploration (44% of our selected papers). Following behind were anxiety and feeling motivated, each investigated by four articles. Additionally, feeling overworked, stressed, and bored were mentioned in three articles, indicating notable research interest in these areas.

Five emotions were the focus of two articles each. Subsequently, 45 emotions and experiences were each addressed in a single article.

This reveals a broad spectrum of emotions and well-being aspects that have captured the attention of researchers, with varying degrees of emphasis across the literature.

2.6.4. Types of studies

In response to Q3, the types of studies conducted were interviews or surveys.

- Two studies employed semi-structured interviews.
- 16 studies implemented a methodology including a survey but in different scenarios:
    - One study had a two-phase approach using surveys.
    - Another study involved daily surveys conducted over 24 weeks, supplemented with surveys twice per week.
    - One other study carried out daily surveys for 8 days, followed by a follow-up survey one year later.

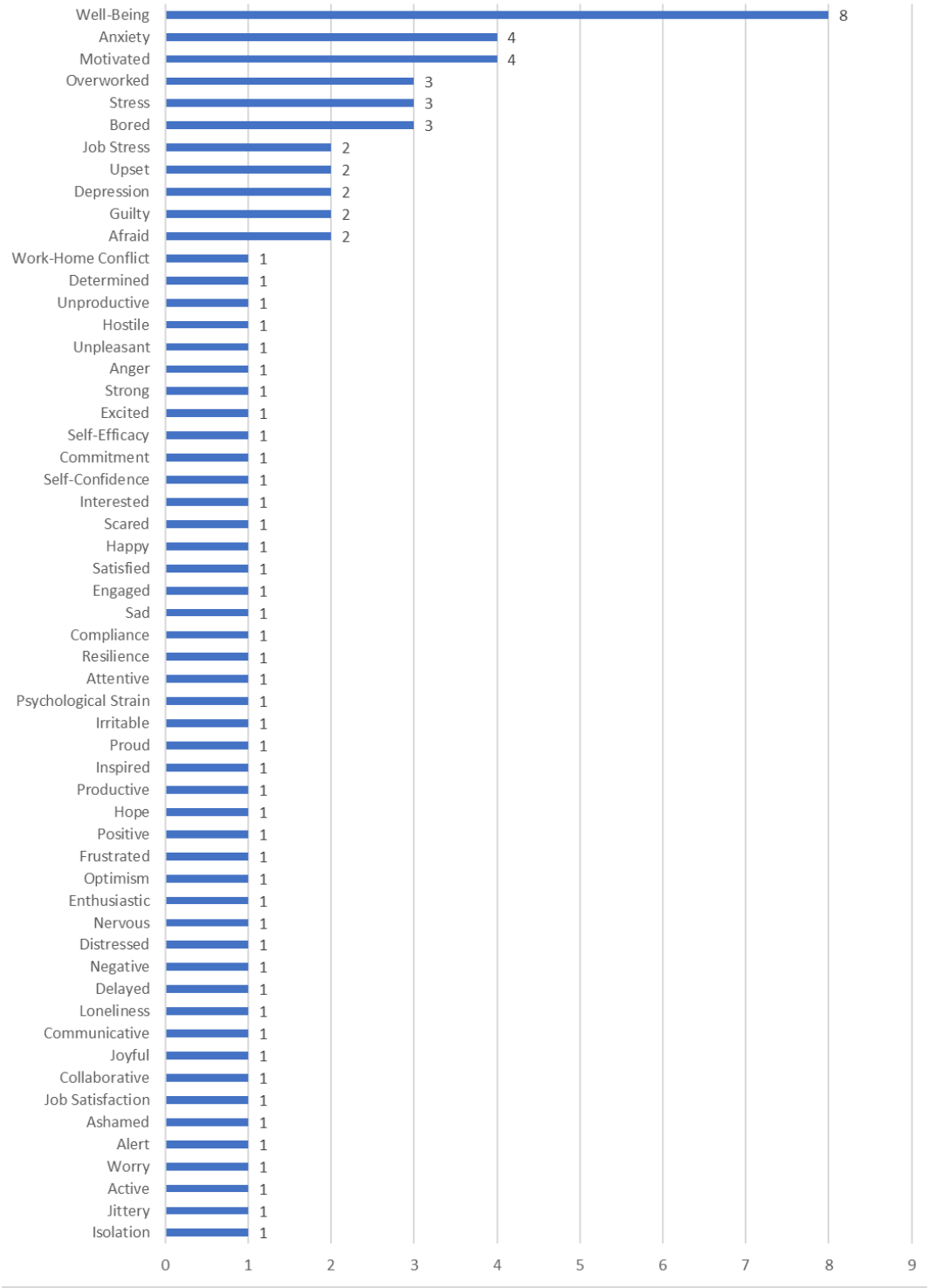

Figure 2.2: Times the emotions, feelings or well-being have been studied

- Two studies conducted surveys in two different moments.
- Eleven studies utilized surveys on a single occasion.

2.6.5. Which factors have been reported that affect well-being and emotions?

From the selected articles and answering Q2, we have uncovered a diverse range of findings that delve into the realms of well-being and emotions. Additionally, our research delves into other interrelated fields, including work engagement, productivity, job satisfaction, and organizational support.

2.6.5.1. Well-being

Table 2.4 illustrates the correlation found between studied variables and well-being across the analyzed articles.

Variable	**Well-being correlation**	**Specific for WFH**	**Article**
Sleep quality	+	No	A1
Work life balance	+	No	A1
Physical excercise	+	No	A1
Decision Latitud	+	No	A1
Job Strain	-	No	A1
Work engagement	+	No	A1
Trust in colleagues and managers	+	Yes	A7
High stress levels	-	Yes	A16
Quality of social contacts	+	Yes	A16
Organizing the day in a structured way at home	+	Yes	A16
Quality of sleep	+	No	A16

Table 2.4: Variables correlation with well-being

Article A1 explored many factors influencing well-being, revealing significant associations between decision latitude[1], job strain, physical exercise, and sleep quality with overall well-being. Decision latitude was found to play a pivotal role in individuals' well-being, while job strain had an adverse impact. Engaging in regular physical exercise showed a positive correlation with enhanced well-being, and better sleep quality also contributed to improved overall well-being. In addition, the importance of work engagement and work-life bal-

[1]Decision latitude of job control, refers to an employee's ability to exercise control over their daily tasks and responsibilities at work (Karasek, 1979) that empowers individuals to manage work events and activities, apply creativity and competence, and acquire new skills

ance in fostering mental well-being was highlighted, revealing the relationship between these factors and individual happiness (A1).

The investigation in Article A16 focused on uncovering variables most closely related to well-being. High-stress levels, the absence of daily routines, and limited social contacts emerged as key factors that significantly influenced well-being. On the contrary, participants who organized their day in a structured manner at home experienced greater well-being. The study further emphasized the relevance of quality sleep and social contacts, both of which were identified as significant predictors of well-being (A16).

Examining the interplay between Occupational Stress and Mental Health, Article A17 demonstrated a negative significant relationship between the two. The study identified five factors of Occupational Stress that adversely impacted mental health, highlighting the importance of managing stress in fostering positive mental well-being (A17).

Trust in the workplace emerged as a critical factor influencing well-being in Article A7. The study highlighted the positive impact of interpersonal trust in both colleagues and managers on employees' well-being. Employees who exhibited higher levels of trust experienced enhanced well-being, underscoring the significance of fostering trust within organizational dynamics (A7).

Collectively, these articles contribute to a deeper understanding of the multifaceted nature of well-being. They underscore the importance of considering various factors such as decision latitude, job strain, physical exercise, sleep quality, work engagement, work-life balance, stress levels, social contacts, and trust to promote overall well-being and mental health among individuals in different contexts.

2.6.5.2. Feelings and Emotions

Table 2.5 displays all the correlations observed between identified variables and positive feelings or emotions in the selected articles, while Table 2.6 showcases all correlations observed between identified variables and negative feelings or emotions across the analyzed articles in our study. Each table also shows if the correlation was mentioned specifically for a remote environment (Specific for WFH) and the article in which it was found.

Article A13 delves into the realm of emotions, specifically focusing on the impact of Psychological Capital on negative emotions. High Psychological

Variable	Correlation	Feeling/Emotion	Specific for WFH	Article
Work from Home	-	Employee Engagement	Yes	A14
Vary remote location	+	Excitement	Yes	A2
Good employee relations	+	Job satisfaction	Yes	A7
Interpersonal trust	+	Job satisfaction	Yes	A7
Self-efficacy	+	Job satisfaction	Yes	A11
Support and Guidance from Superior	+	Job Security	Yes	A14
Job Security	+	Motivation	Yes	A14
Salary and Other Fringe Benefits	+	Motivation (low)	Yes	A14
Relationship with Co-workers	+	Motivation (low)	Yes	A14
Training and Development	+	Motivation (low)	Yes	A14
Degree of Respect and Fair Treatment	+	Motivation (moderated)	Yes	A14
Promotion Opportunity	+	Motivation (moderated)	Yes	A14
Self-motivation	+	Positive Emotions	Yes	A2
Being grateful and regular reflection on challenges	+	Satisfaction	No	A5

Table 2.5: Variables correlation with positive emotions

Capital was associated with lower levels of negative emotions among home-based teleworkers. The study highlights Psychological Capital as a measurable and developable personal resource with potential implications for emotional well-being. Additionally, the research identifies certain workplace practices, such as video conferencing, immediate feedback, and personalized communication by managers, which can help reduce the perception of workplace isolation, which, in turn, affects mental ill-health among high-intensity home-based teleworkers (A13).

Article A14 uncovers various factors influencing employee motivation. The degree of respect and fair treatment, promotion opportunities, job security, and support and guidance from superiors all play a significant role in influencing employee motivation levels. On the other hand, factors like salary, other fringe benefits, relationship with co-workers, and training and development have a relatively weaker influence on motivation. Furthermore, the study points out that working from home (WFH) is negatively related to employee engagement,

Variable	Correlation	Feeling/Emotion	Specific for WFH	Article
Technology Issues	+	Anger	Yes	A2
Not having colleagueas when needed	+	Anger	Yes	A2
Daily Physical Activity	-	Anxiety	Yes	A8
Daily Sitting Time	+	Anxiety	Yes	A8
Social interaction	-	Bored	Yes	A2
Missing information and not having colleagues around	+	Cognitive wearniness	Yes	A2
Daily Physical Activity	-	Depression	Yes	A8
Daily Sitting Time	+	Depression	Yes	A8
Daily breaks	-	Depression	Yes	A8
Quality of social contacts	-	Depression	No	A16
Flexibility in remote work	-	Emotional exhaustion	Yes	A2
Ineffective email use	+	Emotional exhaustion	Yes	A2
Isolation and not being able to get in person emotional support from colleagues	+	Emotional exhaustion	Yes	A2
Work overload	+	Exhaustion	Yes	A18
Work home conflict	+	Exhaustion	Yes	A18
Information underload	+	Exhaustion	Yes	A18
Social interaction	+	Exhaustion	Yes	A18
Technology Issues	+	Frustration	Yes	A2
Not having colleagueas when needed	+	Frustration	Yes	A2
Social interaction	-	Lonely	Yes	A2
Workplace isolation	+	Mental ill-health	Yes	A13
Work stressors	+	Negative affect	Yes	A15
High Psychological Capital	-	Negative Emotions	Yes	A13
Workload	+	Occupational stress	Yes	A17
Job Insecurity	+	Occupational stress	Yes	A17
Poor work environment	+	Occupational stress	Yes	A17
Personal problems	+	Occupational stress	Yes	A17
Lack of structure	+	Occupational stress	Yes	A17
Social interaction	-	Sad	Yes	A2
Technology Issues	+	Stress	Yes	A2
Not having colleagueas when needed	+	Stress	Yes	A2
Daily Physical Activity	-	Stress	Yes	A8
Daily Sitting Time	+	Stress	Yes	A8
Mindfulness practices	-	Stress	No	A16
Videoconferencing, immediate feedback and personalized communication by managers	-	Workplace isolation	Yes	A13

Table 2.6: Variables correlation with negative emotions

suggesting a potential challenge in maintaining high levels of engagement in remote work setups (A14).

A15 investigates the relationship between nonwork stressors and emotions, revealing that employees experiencing more nonwork stressors report higher levels of negative affect and physical symptoms. Furthermore, experiencing more work stressors is associated with higher negative affect and physical symptoms. Interestingly, a workplace intervention was found to reduce negative affect and physical symptom reactivity to noninterpersonal stressors but did not significantly impact reactivity to work stressors or positive affect (A15).

Article A16 delves into stress-reducing strategies for individuals working remotely. Engaging in distressful activities such as exercising, reading, dancing, or engaging in creative activities can reduce stress levels during teleworking. Additionally, mindfulness practices, even when performed at home, are shown to be effective in reducing stress. Moreover, the quality of social contacts with partners and family has a negative impact on depression, while frequency does not appear to play a significant role (A16).

A17 identifies five main factors contributing to occupational stress among women IT employees working from home. These factors include workload, job insecurity, poor work environment, personal problems, and lack of structure (A17).

Article A18 explores the stressors associated with teleworking, finding that work overload, work-home conflict, information underload, and social isolation cause feelings of exhaustion. Particularly, work overload emerges as the most significant factor contributing to exhaustion due to teleworking (A18).

In Article A2, researchers examine the emotional and cognitive effects of remote work. Remote work may decrease concentration levels due to distractions from home tasks and 'e-distractions,' but individuals can increase concentration by creating their own work environment or working in alternative locations like cafes. Emotional exhaustion can be relieved by getting more work done, releasing tension, and engaging in remote work in different locations. However, isolation and a lack of in-person emotional support can increase emotional exhaustion, leading to feelings of loneliness, boredom, and sadness. Self-motivation is identified as a crucial aspect of successful remote work (A2).

Article A3 highlights the psychosocial problems associated with remote work, including increased stress and sleep deprivation. Over half of the employ-

ees surveyed reported experiencing stress during work from home, indicating the potential challenges that come with remote work (A3).

Article A4 demonstrates a positive correlation between happiness and productivity and a negative correlation between unhappiness and productivity. Emphasizing the importance of emotional well-being for work performance (A4).

Article A5 explores how gratitude and regular reflection on challenges can lead to greater job satisfaction. These practices appear to positively influence employees' satisfaction levels (A5).

A6 finds that individual working activities in a remote environment such as coding, bugfixing, meetings, testing, and e-mails do not cause stress, burnout, or lower well-being levels. Additionally, none of these working activities were significantly related to boredom, suggesting that the remote work activities do not contribute to feelings of boredom (A6).

Article A8 investigates the relationship between breaks, physical activity, sitting time, and emotions. Longer daily break duration is associated with lower depression levels. Engaging in daily physical activity is negatively related to stress, anxiety, and depression, while longer daily sitting time during work is positively associated with these negative emotions (A8).

In summary, these findings provide valuable insights into the emotional aspects of remote work, emphasizing the significance of psychological capital, workplace practices, and various stress-reducing strategies to promote well-being, motivation, and engagement in remote work settings. They shed light on the challenges and benefits associated with teleworking, while also identifying factors that impact emotional health during remote work. Understanding and addressing these factors can contribute to the development of effective strategies to support the emotional well-being of remote workers.

2.6.5.3. Other findings

Ergonomics and Home Office Setup:

Article A9 shows that people who live alone tend to have more ergonomic home offices, while those living with small children have less ergonomic setups. This emphasizes the importance of considering the individual needs of remote workers when designing their home office spaces.

Job Satisfaction and Self-Efficacy:

In A11, self-efficacy is shown to have a significant and positive impact on job satisfaction. Additionally, positive employee relations, good relationships with colleagues, and interpersonal trust are all associated with higher job satisfaction (A7).

Lifestyle and Remote Work:

A2 indicates that remote work can have positive effects on lifestyle, leading to healthier eating and exercise habits for some individuals. However, a small group of remote workers may adopt unhealthy behaviors.

Family Time and Work from Home:

A3 reveals that family time can be disturbed due to remote work arrangements. The integration of work and personal life during teleworking may lead to challenges in managing family time.

Sleep Quality and Working Hours:

A3 shows that 71% of employees experienced sleep disturbance due to remote work. Moreover, approximately 30% of employees reported increased working hours during teleworking.

Social Interaction and Tasks at Work:

A12 highlights the absence of social exchange and the missed social exchange in remote work settings, emphasizing the importance of social interaction in traditional office settings. In A6, remote work was associated with fewer meetings and breaks compared to in-office work, indicating potential changes in task patterns during teleworking.

Communication and Career Opportunities:

Article A2 reveals that less in-person communication can lead to challenges in accessing career opportunities. Remote workers who have reduced face-to-face communication may find it more difficult to access career advancement opportunities.

Commuting and Work-Related Aspects:

A2 indicates that employees appreciate the reduction in commuting when working from home. Commuting less is perceived as a positive aspect of remote work.

Disconnecting from Work:

A2 highlights that remote work allows employees to detach from work more easily, leading to quicker switching-off from work when away from the office environment. However, the expectation of being contactable and increased difficulty in putting work away for the day may offset some of the advantages

of disconnection.

Productivity and Work Engagement:

Article A4 highlights that employees' emotional state can affect their performance. Positive emotions may lead to improved performance, while negative emotions could hinder productivity.

A11 demonstrates that experience and training in remote work can positively influence remote work self-efficacy, which, in turn, leads to higher levels of performance and more positive job attitudes. Additionally, fulfilling employees' IT needs is important for enhancing remote self-efficacy. However, exercise was not found to predict work engagement in A1.

A3 indicates that some employees found remote work to be challenging compared to working from the office, suggesting potential difficulties in adapting to remote work arrangements.

Attitude towards Teleworking:

In Article A10, individuals with higher levels of perceived job insecurity were found to have a less favorable attitude towards teleworking. This highlights the impact of job security perceptions on employees' overall perceptions of remote work arrangements.

A18 demonstrates that exhaustion due to telework has the strongest effect on discontinuous intentions towards teleworking. This indicates that the experience of exhaustion significantly influences employees' intentions to discontinue remote work arrangements. However, factors like work overload, work-home conflict, and information underload do not seem to impact employees' discontinuous intentions.

Induction of New Employees:

Article A12 suggests that remote work can prolong the induction process for new employees, as socialization in the team and time until new employees perform may take longer in remote settings.

2.6.5.4. Platforms and Software Utilized for Data Collection and Analysis

The analyzed articles employ a diverse array of tools for data collection and analysis. Google Form is a recurrent choice, with some studies utilizing it as a survey platform, while others specify its use for data analysis. Qualtrics is another widely employed tool, featured in studies for survey distribution and

data collection. LimeSurvey is mentioned as alternative for survey administration. Microsoft Excel finds utility in data extraction, while Miro, a virtual whiteboard, is utilized for data analysis in one instance. Statistical Package for Social Sciences (SPSS) is a prevalent choice for data analysis. Other specialized software, such as RStudio, SmartPLS, and SAS 9.4, is enlisted for statistical analyses and testing. Additionally, Prolific serves as a data collection platform, coupled with Qualtrics for survey administration in one study.

2.6.6. SMS Conclusions

Prior to the COVID-19 pandemic, a number of studies investigated the impact of remote work on emotions and well-being, with notable ones in 1998, 2000, and 2014. However, the pandemic sparked a significant increase in interest in this field. A search during the pandemic located 14 relevant articles, highlighting the growing attention to the subject. Nevertheless, as of July 3, 2022, only one more article had been discovered, indicating a possible decline in research activity following the peak interest during the pandemic.

These studies spanned various continents, although South America, was notably underrepresented, with only one publication. These investigations unveiled captivating insights into the well-being and emotional experiences of remote workers, predominantly in an environment compelled by pandemic-related constraints.

The SMS presents a comprehensive list of emotions identified through a review of various articles. A notable outcome is the mapping of correlations between different variables, emotions, and well-being. These findings are particularly valuable for companies, as they can help in monitoring and addressing factors that influence employee emotions and overall well-being.

Prominent emotions and sensations such as well-being, anxiety, motivation, feelings of being overworked, stress, and boredom were the primary focal points of examination.

However, due to the limited number of studies available, where some emotions were examined only once, these correlations may not be universally applicable and could be specific to the context of the particular research. This limitation underscores the need for further studies to generalize and confirm the connections between various factors and their impact on emotions.

Post the easing of pandemic restrictions, a compelling inquiry emerges:

how do individuals perceive their remote and hybrid work conditions? This post-pandemic landscape adds a layer of intrigue to the evolving dynamics of remote work.

Chapter 3

Studying feelings and emotions in two Uruguayan software companies

In order to achieve the second objective and to understand the emotions and well-being of remote and hybrid software workers in two Uruguayan software companies, we adopt a research methodology centered on survey development, a choice formed by our comprehensive understanding gained through the Systematic Mapping Study (SMS), where this method emerged as widely utilized. The survey serves as a valuable tool to gather data and insights on the emotions, factors and research context related to individuals working fully or partially remotely in software engineering teams. By designing a structured set of questions, we aim to systematically explore various aspects of emotional experiences and well-being in this specific work setting.

By utilizing the survey as our research method, we can collect data directly from participants, enabling a comprehensive analysis of their emotional experiences, identifying influential factors and gaining insights into the broader research context. The survey provides a structured approach to gather quantitative and qualitative data, which will be analyzed to address the research questions and contribute to our understanding of emotions in remote work settings.

3.1. Survey methodology

The survey for this research study was conducted within the premises of two Uruguayan software companies, a selection predicated on the established affiliations of the author and tutor. Company A, featuring a staff complement of 95 individuals, and Company B, with a more extensive workforce numbering 250, have been deliberately chosen as participants.

The survey has been carefully designed to gather insights into the emotions, work experiences, and factors influencing remote and hybrid work in software engineering teams. The initial version has been developed by the author, taking into account the findings from the SMS and incorporating feedback from the tutor. This iterative process attempts to ensure that the survey captures the relevant dimensions, variables and factors that influence emotions and well-being in the context of remote work within software engineering teams.

To ensure the effectiveness and clarity of the survey, a pilot test was conducted with a smaller sample size. For the pilot test, we selected one of the two software companies due to the simplicity of the process. The participants in the pilot test were asked to complete the survey and provide feedback on any questions they found unclear, complex or challenging to respond to.

The modified survey, incorporating the improvements from the pilot test, has been utilized for the main survey administration in both Company A and Company B. This iterative process of survey development and pilot testing attempts to ensure the reliability and validity of the survey instrument, paving the way for a comprehensive and insightful study of emotions and work dynamics in remote and hybrid settings within the Uruguayan software industry.

3.1.1. Survey development

The survey comprises various sections aimed at capturing valuable insights into emotions, work experiences and factors related to remote and hybrid work in software engineering teams. These sections include questions about participants' emotions when working from home, frequency of office visits, feelings associated with going to the office, company support for remote work, frequency of experienced emotions, communication with the team, satisfaction with the company, working conditions at home and demographic information:

Introduction:

The Introduction section provides participants with general information about the survey and requests their consent to participate. This section ensures transparency and establishes a clear understanding of the purpose and scope of the survey.

Frequency of going to the office:

Participants were asked to indicate the frequency of their working from the office days, ranging from never going to the office to going every day. This question allows us to categorize respondents based on their office attendance patterns, providing valuable context for analyzing the data.

General question about their emotions working from home:

This open-ended question invites participants to express how they feel working from home. By allowing participants to provide their personal insights and experiences, this question aims to capture authentic and heartfelt responses that can potentially uncover new findings or consolidate existing ones not covered in other sections of the survey.

Feelings associated with going to the office:

Similar to the previous question about their emotions while working from home, this open-ended question asks participants to describe how they feel when they go to the office. By collecting honest and personal responses, we aim to gain further insights into participants' emotional experiences during office visits, potentially uncovering additional factors not explored elsewhere in the survey.

Company support for remote working:

This section assesses the level of support provided by the company for remote working and explores participants' perceptions of this support. It draws on previous studies that have highlighted the importance of company support in remote work contexts (Ralph et al., 2020; Ross, 2022; Russo, Hanel, et al., 2021; Staples et al., 1998), aiming to understand participants' sentiments and opinions regarding their organization's approach to remote work.

Frequency of feelings and emotions experienced while working from home and at the office:

Based on the Positive and Negative Affect Scale proposed by Watson et al. (1988), participants are asked to indicate how frequently they have experienced a set of positive and negative emotions in the past weeks while working from home and while working at the office. This standardized assessment allows us to quantify and compare the emotional experiences of participants in

different work settings. We chose to include an adaptation of this scale because it examines a range of emotions that are highly relevant to many of the studies selected in our SMS. The scale also provides a structured approach to researching emotions. Furthermore, it was fully implemented in the study by Leger et al. (2022) and partially implemented by Sahai et al. (2022).

As the survey is conducted in Spanish, and given that emotions do not always have precise one-to-one translations, in Table 3.1 we have provided the translated concepts that were used in this study.

English	**Spanish**
Scared	Asustado
Afraid	Temeroso
Upset	Molesto
Distressed	Estresado
Jittery	Ansioso
Nervous	Nervioso
Ashamed	Avergonzado
Guilty	Culpable
Irritable	Irritable
Hostile	Hostil
Enthusiastic	Entusiasta
Interested	Interesado
Determined	Decidido
Excited	Emocionado
Inspired	Inspirado
Alert	Alerta
Active	Activo
Strong	Fuerte
Proud	Orgulloso
Attentive	Atento

Table 3.1: Emotions translations

Communication with their team: This section investigates participants' level of connectivity and communication with their team while working remotely. Drawing on previous studies that have explored remote communication (Marinho et al., 2021; Neumann et al., 2022; Ross, 2022; Russo, Hanel, et al., 2021, 2021; Weinert et al., 2014), this questions aim to gain insights into participants' experiences and perceptions of team connectivity in a remote work environment.

Level of satisfaction with the company:

Participants were asked to rate their level of satisfaction with the company. This question provides a measure of overall satisfaction, allowing us to assess participants' perceptions of their work environment and organizational support.

Working conditions at home:

This section assesses participants' working conditions at home, specifically focusing on ergonomic factors. The questions in this section are based on the study by Russo, Hanel, et al. titled «Predictors of well-being and productivity among software professionals during the COVID-19 pandemic – a longitudinal study» (Russo, Hanel, et al., 2021).

Demographic questions:

This section includes demographic questions that gather information about participants' characteristics such as age, gender, and other relevant demographic factors. These questions were adapted from the study by Ralph et al. titled «Pandemic programming» (Ralph et al., 2020), ensuring consistency and comparability in demographic data collection.

3.1.2. Pilot Test

The pilot test of the survey involved participants from a software company in Uruguay. We selected participants from this particular company to ensure representation from different levels of expertise and varying patterns of office attendance. The goal was to gather feedback and insights from individuals with diverse experiences in remote and hybrid work settings within the software engineering field. These participants were chosen to provide a comprehensive perspective on the survey's clarity, complexity and overall effectiveness.

The pilot test of the survey involved three participants who were given five days to complete it. They were instructed to provide feedback on any questions that they found unclear, complex, or difficult to respond to. A week later, we conducted a meeting with the participants to discuss the issues identified during the survey.

Overall, the participants found the survey to be correct and well understood. However, some feedback highlighted concerns about the length and complexity of the feelings questions. Participants mentioned that selecting sliders for each feeling, even when the values were the same, felt cumbersome. Additionally, there were questions regarding the clarity and distinction of cer-

tain feelings, particularly with regards to being scared and being afraid.

An additional suggestion from the participants was to include a question about their preference for working remotely, at the office, or in a hybrid regime. During the review of responses, we discovered a question that did not receive any responses, and we also identified an issue with the survey flow.

Based on the feedback received, several changes were made to improve the survey:

- The feelings questions were replaced with lists of radio-buttons instead of sliders.
- A "No respond" option was included for all of the feelings.
- Definitions were added for each feeling to ensure consistent understanding and avoid misunderstandings.
- The survey flow was corrected.
- A question about the preference for working remotely, at the office or in a hybrid regime was added.

Subsequently, we validated the modified survey with the participants of the pilot version.

The full survey in Spanish can be found in Appendix 2.

3.1.3. Conducting the survey

The survey was conducted in two Uruguayan software companies denoted as A and B, utilizing Qualtrics for both its distribution and subsequent analysis. Because of reduced resources and limited time, we have only analyzed primary results from both surveys and set our focus in the feelings and emotions participants are experiencing while working from home but also at the office.

Company A is a technology company that specializes in providing advanced software solutions and IT services. The company focuses on helping organizations leverage technology to improve their business processes and achieve digital transformation, as well as building their own products to achieve it. Company A employs approximately 95 professionals.

Company B is a software development company that specializes in providing innovative and high-quality IT solutions. They offer services such as custom software development, agile project management, and IT consulting, aiming

to help businesses transform their operations through technology. Company B has around 250 employees.

3.2. Company A: Results and discussion

In this section, we examine the survey results from Company A and discuss their implications.

3.2.1. Results Company A

Out of the initial 40 participants who began the survey, 32 successfully completed it, resulting in a completion rate of approximately 80%. The responses of the participants who did not finish the survey were excluded from the analysis.

In terms of gender identification, approximately 22% of the participants self-identified as female, while the majority, constituting 78%, identified as male.

The age distribution of survey participants can be summarized as follows. Participants aged 25 years or younger accounted for 46.9% of the total respondents. The age group ranging from 26 to 30 years represented 18.8% of the participants. A total of 21.9% of respondents fell within the age range of 31 to 40 years. Only 6.3% of the participants were between the ages of 41 and 50. An additional 6.3% of respondents were 51 years or older.

In terms of work arrangements, the survey reveals the following patterns among participants: Around 9.4% of participants visit the office 3 or 4 times per week. The majority, comprising 81.3%, go to the office 1 or 2 times per week. A small minority, just 3.1%, visit the office every 2-3 weeks or once a month. About 3.1% of respondents only go to the office for special events. The last 3.1%, never go to the office and work entirely remotely.

3.2.1.1. Emotions, feelings and findings while working remotely

In the course of our inquiry into the emotional experiences associated with remote work, respondents were invited to provide open-ended responses: *How have you felt in the last few weeks working from home? Tell us what feelings and emotions, both positive and negative, you have experienced when working*

from home and how you found yourself. This question elicits not only emotions but also related thoughts and circumstances.

All responses have been processed by the author, categorizing them following a simplification of a Content Analysis process: Conceptual Analysis («Content Analysis Method and Examples — Columbia Public Health», 2016).

Conceptual analysis identifies and measures the presence and occurrence of concepts within a text. The main goal is to analyze the occurrence of certain terms in the data. Terms can be either explicit or implicit. Explicit terms are direct and easy to recognize. However, coding implicit terms is more complex, requiring decisions about the degree of implication and relying on subjective judgments (which can affect reliability and validity). It is set that coding implicit terms necessitates the use of a dictionary, contextual translation rules, or a combination of both. However, theses rules were not explicitly defined in this work.

Having the question in mind, the process starts with some samples for analysis. Then, each text should be tagged identifying specific words or patterns that are related with the defined question.

To conduct the conceptual content analysis, first we have decided the level of analysis to be word sense. When a word sense needs context, the whole phrase was selected. We started with no categories and allowed flexibility to add new categories through the coding process. Only the existence of a concept in each text was coded. The process was executed in Qualtrics tool by adding topics to each response.

The frequency of each category is illustrated in Figure 3.1.

In the realm of emotional states, a predominant 60.6% of participants conveyed a sense of comfort while working from home. A notable 24.2% expressed a general positive feeling, encapsulated with the simple term "Good" (or "Bien" in Spanish).

Furthermore, 21.2% of respondents described their experience as one characterized by tranquility. In contrast, 6.1% conveyed feelings of boredom, while an equivalent percentage of 6.1% expressed sentiments of loneliness. Isolated mentions included feelings of being overwhelmed, experiencing anxiety related to isolation, encountering demotivation, finding the experience enjoyable, experiencing frustration, particularly due to prolonged indoor times, feeling less fatigued, reporting motivation, and a sense of heaviness.

In the realm of thoughts and considerations, our participants offered a

multifaceted perspective. Approximately 24.2% highlighted the benefits of time savings, as they no longer needed to commute to the office. In contrast, an equal percentage of 24.2% cited the challenge of increased distractions when working from home.

Around 9.1% of respondents expressed positive feelings for having more flexible working hours. An equivalent percentage of 9.1% reported having fewer social interactions as a notable aspect of their remote work experience. An additional 9.1% articulated their enhanced ability to maintain focus, while another 9.1% specifically emphasized improved concentration on individual tasks.

Approximately 6.1% of participants reported heightened productivity when working remotely, while an equal percentage of 6.1% expressed difficulties in maintaining productivity, particularly when engaged in group tasks. A subset of 6.1% mentioned encountering challenges in striking an harmonious balance between their work and personal life.

Furthermore, individual mentions were made, including not perceiving a substantial difference between remote and office work due to team support, the preference for commuting to the office based on proximity, the ability to periodically access fresh air, the opportunity to share moments with family, occasional sharing of physical workspace, a strong desire for social interaction, less favorable home office setups compared to the office, the ability to take breaks for physical movement, capacity to address personal matters, working overtime, and the sense of familiarity with remote work.

Now, we delve into the emotions reported by the participants in the Positive and Negative Affect Scale: *Now, we want to evaluate in the last few weeks, the days that you have worked remotely, how long you have felt the following emotions*, referring to the set of 10 positive and 10 negative emotions. This question employs a 5-Likert Scale ranging from "Never" to "Always", we have opted to streamline the scale into three distinct points for ease of data analysis:

N - Never or sometimes
H - Half of the time
A - Always or most of the time
NR - No response

This simplification facilitates a more straightforward and comprehensible processing of the gathered information.

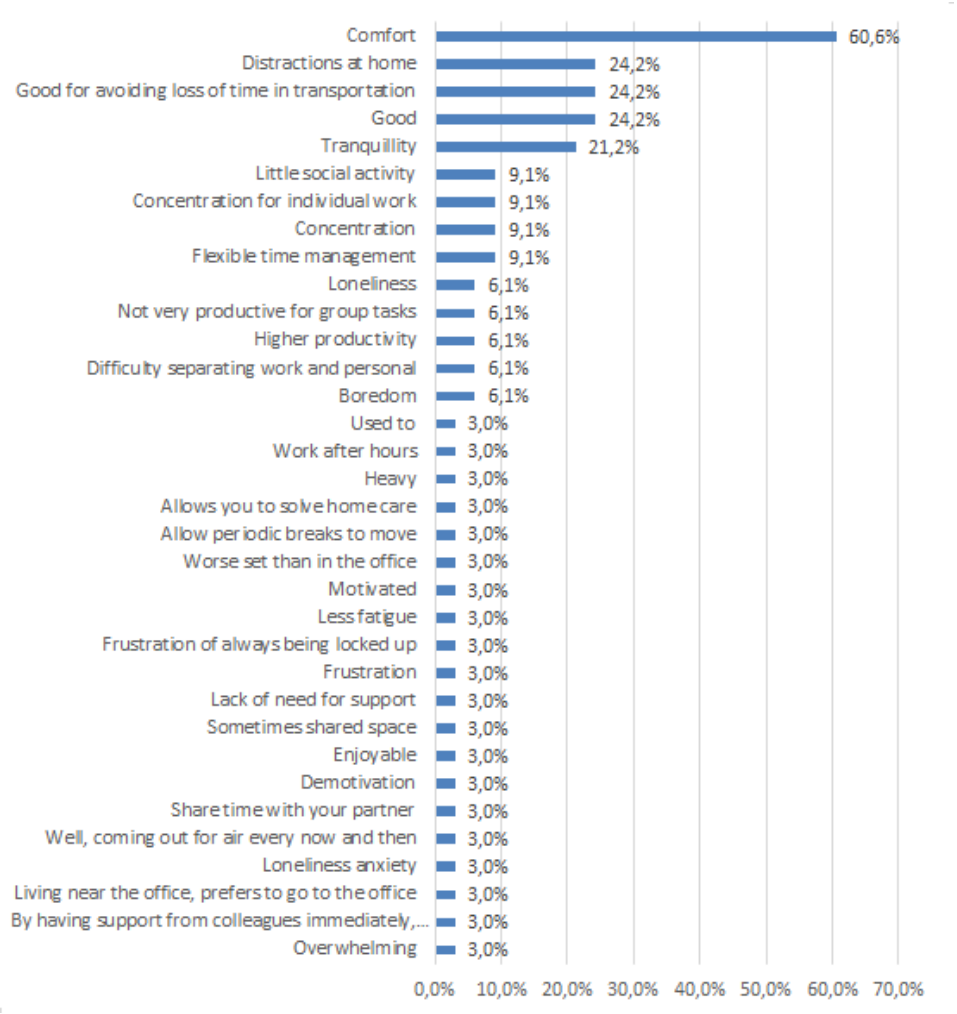

Figure 3.1: Q: How have you been feeling working remotely? - Company A

Positive Emotions

Always or Most of the Time: The most frequently reported positive emotions, occurring always or most of the time, include feelings of attentiveness (62.5%), activeness (62.5%), and interest (50.0%). These emotions are prevalent among a significant portion of the respondents, suggesting a strong presence of these positive feelings in the remote work environment.

Half of the Time: Many respondents also noted experiencing these positive emotions to some extent, typically about half of the time. Notably, feelings of determination (37.5%), strength (28.1%), and pride (28.1%) were particularly common, indicating that a substantial number of participants regularly experience a sense of motivation and active engagement while working remotely.

Never or Sometimes: The emotions that were reported to be less common

when working remotely are feelings of excitement (53.1%), alertness (40.6%), and inspiration (38.7%). These emotions are encountered less frequently or with some variability in the remote work setting.

Table 3.2 displays the frequency of positive emotions reported by individuals working remotely at Company A.

Freq	Excited	Alert	Inspired	Proud	Enthusiastic	Interested	Strong	Attentive	Determined	Active
A	34,4%	37,5%	25,8%	31,3%	40,6%	50,0%	43,8%	62,5%	43,8%	62,5%
H	12,5%	21,9%	35,5%	28,1%	25,0%	21,9%	28,1%	12,5%	37,5%	18,8%
N	53,1%	40,6%	38,7%	37,5%	34,4%	28,1%	28,1%	21,9%	18,8%	15,6%
NR	0,0%	0,0%	0,0%	3,1%	0,0%	0,0%	0,0%	3,1%	0,0%	3,1%

Table 3.2: Positive emotions - Remote - Company A

Negative Emotions

Always or Most of the Time: Negative emotions, including feelings of distress (12.5%), jitteriness (9.4%), guilt (3.1%), irritability (3.1%), and nervousness (3.1%), were reported to be experienced most of the time; however, their prevalence in this category was relatively low.

Half of the Time: Some negative emotions, including feeling distressed (25.0%), jittery (9.4%), nervous (12.5%), and upset (6.3%) were reported as occurring half of the time, indicating that they are not as frequent as the positive emotions reported by the participants.

Never or Sometimes: On the other hand, negative emotions like feeling scared, afraid, hostile, ashamed, upset, guilty, and irritable were reported as occurring never or sometimes. The majority of participants did not report experiencing these emotions most of the time.

Table 3.3 displays the frequency of negative emotions reported by individuals working remotely at Company A.

Freq	Scared	Afraid	Ashamed	Hostile	Upset	Guilty	Irritable	Nervous	Jittery	Distressed
A	0,0%	0,0%	0,0%	0,0%	0,0%	3,1%	3,1%	3,1%	9,4%	12,5%
H	0,0%	0,0%	3,1%	0,0%	6,3%	3,1%	3,1%	12,5%	9,4%	25,0%
N	100,0%	100,0%	96,9%	96,9%	93,8%	90,6%	90,6%	84,4%	81,3%	62,5%
NR	0,0%	0,0%	0,0%	3,1%	0,0%	3,1%	3,1%	0,0%	0,0%	0,0%

Table 3.3: Negative emotions - Remote - Company A

What could organizations do for a better work from home experience?

Figure 3.2 summarizes responses from participants regarding potential improvements for their work-from-home experience: *Do you think the company*

could do something it hasn't done yet so you can work better from home?. Here's a concise breakdown of the key findings:

No (36.4%): A substantial portion expressed contentment with their current remote work setup.

Office Set-up Benefits (18.2%): A notable percentage sought assistance with office equipment or ergonomics.

Home Office Expenses Support (18.2%): An equal number desired financial support for home office-related expenses.

Remote Activities (9.1%): A smaller group favored activities promoting team cohesion in a virtual work environment.

Access to Co-works, Use of Discord, Commuting Expenses Support (3.0% each): These responses highlight the desire for access to co-working spaces, alternative communication tools, and assistance with commuting costs.

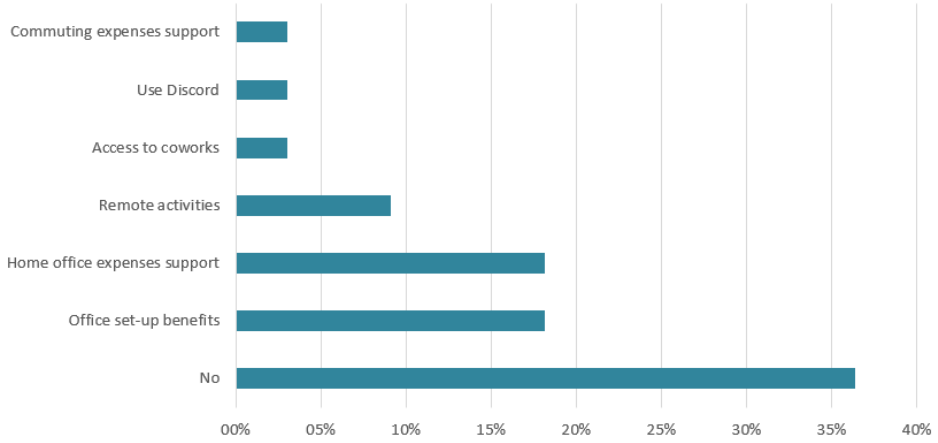

Figure 3.2: Q: Is there anything you think the company could do to make your work from home better? - Company A

3.2.1.2. Emotions, feelings and findings while working at the office

Participants answered to: *Can you describe in one sentence how you feel on the days you go to the office? Tell us about what feelings and emotions going to the office provokes in you and how you feel at the end of the day.* Their responses unveiled a diverse spectrum of sentiments associated with this particular work environment.

All responses have been processed by the author, categorizing them based on key concepts within the text. The frequency of each category is illustrated in Figure 3.3.

Key findings from the survey responses include a range of emotions, both positive and challenging, experienced by employees while working in the office. Notably, a significant 42.4% of respondents underscored the role of the office in facilitating team building, emphasizing the significance of collaboration and social interaction within the workplace.

Additionally, 39.4% of participants indicated that working in the office often resulted in longer workdays. Emotions such as happiness (18.2%), motivation (18.2%), and pleasure (18.2%) were reported by a substantial percentage of respondents, reflecting the positive aspects of office work.

Conversely, participants also highlighted some of the challenges associated with working in the office. For instance, 27.3% reported experiencing fatigue related to extended workdays, underscoring the potential downsides of prolonged office hours. Frequent interruptions (9.1%) and a lack of motivation to commute (9.1%) were also mentioned as factors influencing their emotions while in the office.

The responses further reveal that 12.1% of participants found the office environment conducive to a sense of well-being, and the same percentage valued the opportunities for social interaction. However, 6.1% reported heightened focus and increased productivity when working in the office, indicating the complexity of emotions associated with this environment.

For a subset of participants, working in the company of colleagues was appreciated, as 3.0% mentioned a preference for such an environment. Simultaneously, 3.0% associated office work with feelings of anxiety and being overwhelmed, often related to the daily commute. Some reported it was easier to disconnect from work when in the office, which was echoed by 3.0% of participants. Interestingly, 3.0% described the days going to the office as being the least preferred.

Also a small percentage (3.0%) reported experiencing mixed emotions, finding both positive and negative aspects in their office work experiences. Some participants noted feeling less comfort in the office environment (3.0%), while a similar percentage associated it with reduced productivity. Conversely, 3.0% felt more energized while working in the office, as well as feeling fulfilled. Additionally, 3.0% considered it necessary, from time to time, to work in the office, and the same percentage believed that their performance did not significantly improve when in the office. Lastly, 3.0% found the office environment useful for collaborative tasks and team-based work.

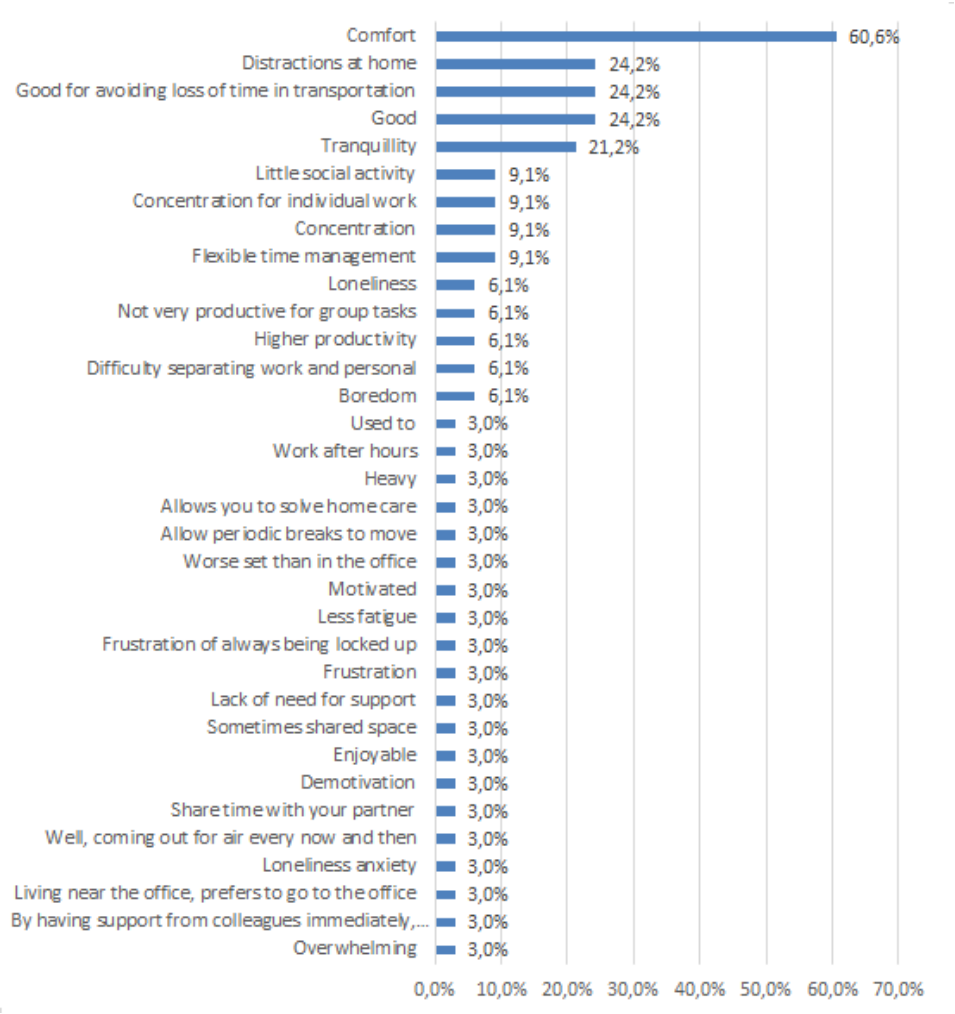

Figure 3.3: Q: How have you been feeling when going to the office? - Company A

We will now delve into the emotions experienced by participants while working at the office, utilizing the same simplification approach as applied to emotions and feelings when working remotely (N, H, A, NR). They were asked to reply for the same set of 10 positive and 10 negative emotions: *We want to evaluate in the last few weeks, the days that you have worked in the office, how long you have felt the following emotions.*

Positive Emotions

Always or Most of the Time: A substantial number of respondents consistently reported experiencing positive emotions, such as enthusiasm (46.9%), interest (43.8%), determination (46.9%), excitement (34.4%), inspiration (37.5%), alertness (40.6%), attentive (46.9%), feeling active (56.3%), strength (37.5%), and pride (25.0%) while at work. These emotions were notably preva-

lent and marked a significant aspect of the participants' experiences.

Half of the Time: Positive emotions were also reported as being experienced to some degree, half of the time, by a noteworthy percentage of respondents. Proud (31.3%), active (25.0%), interest (25.0%), strong (25.0%), attentive (25.0%), inspiration (21.9%), and feeling alert (18.8%) were prominent in this category, indicating a balanced emotional landscape.

Table 3.4 displays the frequency of positive emotions reported by individuals working at the office at Company A.

Freq	Enthusiastic	Interested	Determined	Excited	Inspired	Alert	Active	Strong	Proud	Attentive
A	46,9%	43,8%	46,9%	34,4%	37,5%	40,6%	56,3%	37,5%	25,0%	46,9%
H	9,4%	25,0%	15,6%	15,6%	21,9%	18,8%	25,0%	25,0%	31,3%	25,0%
N	40,6%	28,1%	28,1%	40,6%	37,5%	34,4%	12,5%	25,0%	34,4%	21,9%
NR	3,1%	3,1%	9,4%	9,4%	3,1%	6,3%	6,3%	12,5%	9,4%	6,3%

Table 3.4: Positive emotions - At the office - Company A

Negative Emotions

Always or Most of the Time: Negative emotions such as distress (15.6%), feeling jittery (18.8%), and nervousness (6.3%) were reported but were not as prevalent as the positive emotions described earlier.

Half of the Time: A smaller proportion of participants reported experiencing negative emotions, including being upset (6.3%), distressed (9.4%), and guilty (9.4%), to some extent, half of the time.

Never or Sometimes: The majority of participants indicated rarely or sometimes experiencing negative emotions, such as being scared (93.8%), feeling afraid (90.6%), distress (71.9%), nervousness (87.5%), shame (90.6%), guilt (81.3%), hostility (90.6%), and feeling irritable (87.5%). These emotions were less frequent in the participants' overall work experiences.

Table 3.5 displays the frequency of negative emotions reported by individuals working at the office at Company A.

Freq	Scared	Afraid	Upset	Distressed	Jittery	Nervous	Ashamed	Guilty	Irritable	Hostile
A	0,0%	0,0%	0,0%	15,6%	18,8%	6,3%	3,1%	0,0%	0,0%	0,0%
H	0,0%	0,0%	6,3%	9,4%	3,1%	3,1%	0,0%	9,4%	3,1%	0,0%
N	93,8%	90,6%	84,4%	71,9%	75,0%	87,5%	90,6%	81,3%	87,5%	90,6%
NR	6,3%	9,4%	9,4%	3,1%	3,1%	3,1%	6,3%	9,4%	9,4%	9,4%

Table 3.5: Negative emotions - At the office - Company A

3.2.1.3. Working mode preference

Figure 3.4 presents the preferences of survey participants regarding their ideal work arrangements, by completing the following multiple option question: *Which work arrangement do you prefer?*. Here is succinct description of the key findings:

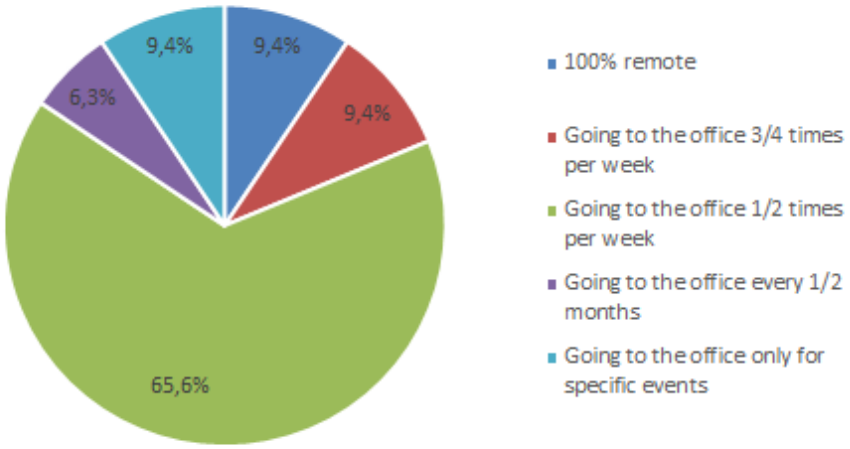

Figure 3.4: Q: Which work arrangement do you prefer? - Company A

100% Remote (9.4%): A small percentage of respondents favor exclusively remote work, indicating a preference for working from their home or a remote location full-time.

Going to the office 3/4 times per week (9.4%): An equivalent percentage expressed a preference for a semi-remote schedule, going to the office most weekdays while working remotely on a few days.

Going to the office 1/2 times per week (65.6%): The majority of participants indicated a preference for a part-time office schedule, visiting the workplace once or twice a week while working remotely on the remaining days.

Going to the office every 1/2 months (6.3%): A smaller group prefers infrequent office visits, choosing to go to the office approximately once every two months.

Going to the office only for specific events (9.4%): Another segment favors visiting the office exclusively for special or specific occasions or events.

These preferences offer valuable insights into the diverse work arrangement choices of employees.

Additionally, when inquiring about the impact of commuting time on the decision to go to the office, the majority of participants (84.4%) responded affirmatively by selecting "Yes".

3.2.1.4. Working tools and communication

Figure 3.5 represents the level of connectivity survey participants feel with their teams during their workday. With a set of options, participants were asked to respond: *How connected are you with the rest of the team during the workday?*. Here is a concise description of the key findings:

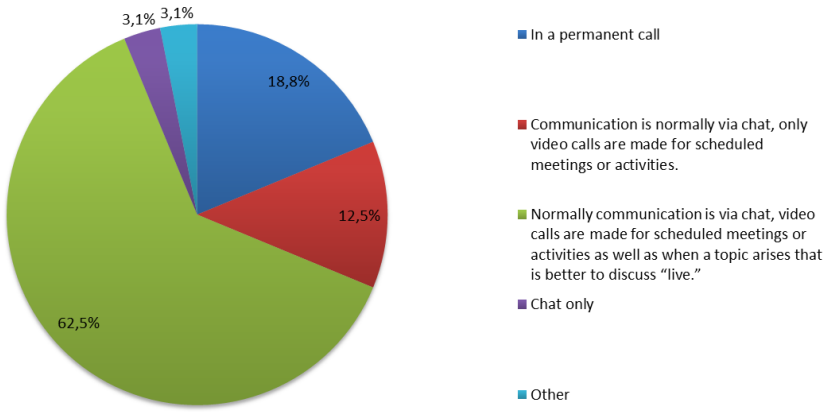

Figure 3.5: Q: How connected are you with the rest of the team during the workday? - Company A

In a permanent call (18.8%): A notable percentage of respondents stay continuously connected with their team members through ongoing audio or video calls, indicating a high level of real-time interaction.

Chat is the norm, with video calls for scheduled meetings (12.5%): A significant portion relies primarily on chat for communication but utilizes video calls for planned meetings or specific activities, demonstrating a balance between written and visual communication.

Communication is normally via chat, with occasional video calls (62.5%): The majority of participants favor chat as their primary mode of communication. However, they also engage in video calls for scheduled meetings and spontaneous discussions when face-to-face interaction is deemed more effective.

Chat only (3.1%): A participant relies exclusively on text-based chat for communication, avoiding video calls altogether.

Other (3.1%): A respondent indicated alternative approaches to team communication beyond the provided options. Discord was mention as an other way of communicating.

Figure 3.6 depicts the choices made by survey participants regarding the tools they utilize for work-related communication. From a set of known communication tools, participants where asked to respond: *What work communication tools do you use?*. Here is a succinct description of the key findings:

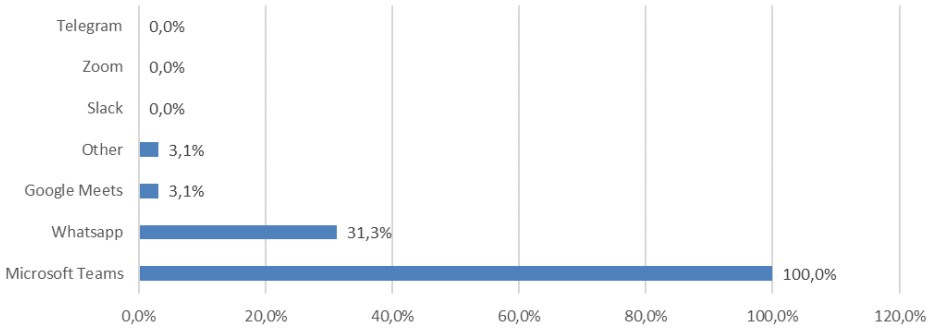

Figure 3.6: Q: What work communication tools do you use? - Company A

Microsoft Teams (100.0%): A significant and unanimous percentage of respondents rely on Microsoft Teams for their work-related communication needs, indicating it as the dominant platform for professional interactions within the organization.

WhatsApp (31.3%): While Microsoft Teams holds a prominent position, a notable portion of participants also incorporates WhatsApp into their work communication. This suggests a preference for using both platforms for different aspects of their work-related interactions.

Google Meets (3.1%): A single respondent mentioned Google Meets as the used tool for work-related communication, suggesting its adoption for specific use cases or alongside other primary tools.

Other (3.1%): A respondent reported using alternative communication tools not listed in the provided options, showcasing the diversity in tool selection within the surveyed population. Discord was mention as an other communication tool.

Slack, Zoom, Telegram (0.0%): Notably, none of the respondents indicated the use of Slack, Zoom, or Telegram for their work-related communication in the surveyed group.

3.2.2. Discussion Company A

3.2.2.1. Open questions about feelings and emotions:

The discussion is based on viewpoints expressed for at least 15% of participants regarding their experiences on days spent working at the office and those spent working from home. The findings are categorized in positive aspects and challenges for each work environment.

Positive Aspects of Working at the Office

- Team Building (42.4%): A significant percentage of participants highlighted the role of the office environment in promoting team building and collaboration. This indicates that being in a physical office setting is seen as a conducive space for fostering teamwork.
- Happiness (18.2%): A significant percentage associated happiness with working at the office. This is a positive emotional response that corresponds to office days.
- Motivation (18.2%): A similar percentage expressed motivation while working at the office, indicating that going to the office can be motivating for some.
- Pleasure (18.2%): The same percentage mentioned experiencing pleasure while at the office, suggesting a positive emotional connection with the days going to the office.

Challenges of Working at the Office

- Longer Workdays (39.4%): A substantial portion of respondents mentioned that going to the office makes the working day longer due to time spent in commuting.
- Fatigue (27.3%): A notable percentage reported experiencing fatigue associated with longer workdays in the office, indicating that extended office hours can be physically taxing.

Positive Aspects of Working from Home

- Comfort (60.6%): The majority of respondents emphasized the comfort of working from home. This suggests that individuals find their home environment to be a comfortable and conducive space for work.

- General positive feeling (24.2%): A significant percentage expressed feeling OK while working remotely.
- Avoiding Transportation Time Loss (24.2%): A similar percentage noted the advantage of avoiding time loss due to commuting. This reflects a practical benefit of remote work, which is the reduction of commute-related stress and time.
- Tranquility (21.2%): Some participants associated tranquility with working from home, indicating a sense of peace and calm in the home office environment.

Challenges of Working from Home

- Distractions at Home (24.2%): A considerable portion of respondents reported distractions at home while working, indicating that maintaining focus in a home environment can be challenging.

In summary, when comparing the findings, it is evident that working in the office is associated with elements like team building, bringing joy, motivation and pleasure. However, it also brings challenges such as fatigue. On the other hand, working from home is characterized by a high level of comfort and the avoidance of transportation-related time loss, but it can present challenges such as distractions. Both work environments are associated with positive emotions. The choice between working in the office or from home may depend on the individual's specific preferences and work-related needs.

3.2.2.2. Multiple choice questions about feelings and emotions:

Analyzing the median scores for this group of defined emotions, we can discern subtle distinctions in the different work environments. Table 3.6 presents the median values, with the "Non-response" option disregarded, where the scale corresponds to 1 (Never) and 5 (Always). The key observations are summarized as follows:

Emotions such as "Afraid," "Alert," "Excited," "Inspired," "Interested," "Nervous," "Scared," and "Upset" display no substantial difference in median scores between remote and office work. This suggests a consistent experience of these emotions, irrespective of the work location.

Conversely, emotions including "Active," "Determined," "Distressed," "Enthusiastic," and "Jittery" appear to be more pronounced when working

Variable	Median Remote feeling	Median Office feeling	Median difference
Active	3,00	4,00	1,00
Determined	3,00	4,00	1,00
Distressed	1,00	2,00	1,00
Enthusiastic	2,00	3,00	1,00
Jittery	1,00	2,00	1,00
Afraid	1,00	1,00	-
Alert	3,00	3,00	-
Excited	3,00	3,00	-
Inspired	3,00	3,00	-
Interested	3,00	3,00	-
Nervous	2,00	2,00	-
Scared	1,00	1,00	-
Upset	1,00	1,00	-
Attentive	4,00	3,50	- 0,50
Strong	3,50	3,00	- 0,50
Ashamed	2,00	1,00	- 1,00
Guilty	2,00	1,00	- 1,00
Hostile	2,00	1,00	- 1,00
Irritable	2,00	1,00	- 1,00
Proud	4,00	3,00	- 1,00

Table 3.6: Comparing median of emotions - Company A

at the office. These emotions exhibit a somewhat higher prevalence in the office environment.

Additionally, "Attentive," "Strong," "Ashamed," "Guilty," "Hostile," "Irritable," and "Proud" demonstrate higher median values when working remotely, indicating a greater prevalence when working from home.

3.2.2.3. Working mode preference

A variety of work arrangements in a hybrid setup have been chosen as preferences, with going to the office once or twice per week emerging as the most favored option. This choice reflects the value placed on both remote work and consistent, in-person team interactions. It's worth highlighting that none of the respondents opted for a fully in-person work arrangement.

3.2.2.4. Working tools and communication

It seems, company A has established Microsoft Teams as the primary standard for communication within the organization. Notably, there is a diverse range of daily communication methods employed while working remotely. While text-based chat is a common practice, the ability to engage in real-time communication when necessary is evidently considered significant.

3.3. Company B: Results and discussion

In this section, we examine the survey results from Company B and discuss their implications.

3.3.1. Results Company B

Out of the initial 95 participants who began the survey, 61 successfully completed it, resulting in a completion rate of approximately 64%. The responses of the 34 participants who did not finish the survey were excluded from the analysis. In terms of gender identification, approximately 31.1% of the participants self-identified as female, while the majority, constituting 65.6%, identified as male. The other 3.3% preferred to not say their gender.

The age distribution of survey participants can be summarized as follows:

Participants aged 25 years or younger accounted for 4.9% of the total respondents. The age group ranging from 26 to 30 years represented 9.8% of the participants. A total of 45.9% of respondents fell within the age range of 31 to 40 years. 26.2% of the participants were between the ages of 41 and 50. An additional 13.1% of respondents were 51 years or older.

Notably, none of the respondents adhere to a daily office commute, highlighting a notable shift towards flexible work arrangements. Approximately 8.2% of participants visit the office 3 or 4 times per week, indicating a moderate in-office presence. A significant 21.3% opt for a part-time office schedule, involving 1 or 2 office visits weekly. Additionally, 24.6% have a more infrequent office attendance, going to the office every 2-3 weeks or once a month. A substantial 34.4% reserve their office presence solely for special events, embracing a hybrid approach. Interestingly, 11.5% have a fully remote work setup, forgoing office visits entirely.

3.3.1.1. Emotions, feelings and findings while working remotely

Participants were asked: *How have you felt in the last few weeks working from home? Tell us what feelings and emotions, both positive and negative, you have experienced when working from home and how you found yourself.*

All responses have been processed by the author, categorizing them based on key concepts within the text. The frequency of each category is illustrated in Figure 3.7.

A prominent 41% of respondents conveyed an overall positive sentiment, succinctly encapsulated by the term "Good" (or "Bien" in Spanish). Additionally, 19.7% highlighted the importance of feeling comfortable in their remote work environment. Missing social interaction was a sentiment shared by 13.1% of respondents, underscoring the value of interpersonal connections.

Concentration and tranquility were identified as significant emotional states by 11.5% of participants. A notable 6.6% reported feeling "Very good or Excellent." Loneliness was experienced by 6.6% of participants, while 3.3% reported feelings of happiness. The experience of being overwhelmed was shared by 1.6% of respondents, as were emotions such as distress, anxiety, trust, demotivation, increased stress, decreased enjoyment, sedentary and general negative feelings.

Among the noteworthy findings shared by respondents, a substantial 32.8% of participants emphasized the value of flexible time management, highlighting its significance in their remote work experience. A significant 14.8% noted that remote work was "Good for avoiding the loss of time in transportation," reflecting a common benefit. Furthermore, 13.1% of respondents found solace in the opportunity to share their time with family and pets, emphasizing the work-life integration aspect.

Some participants, at 6.6%, acknowledged experiencing distractions at home, while a smaller 4.9% reported higher productivity in their remote work setup. The challenge of separating work and personal life was mentioned by 3.3% of participants, highlighting the need for clear boundaries. A similar percentage, 3.3%, expressed having little social activity while working from home.

A single respondent mentioned saving money on transportation, experiencing delays in responses from colleagues, feeling disconnected from their team, struggling to get to know others, and facing difficulties in taking on certain roles in a fully remote setting, each at 1.6%. Additionally, being the office

attendance optional and having more interaction with people from different locations are valued by 1.6% of participants, while experiencing monotony, and making an effort to maintain team cohesion, are also mentioned by 1.6% of participants.

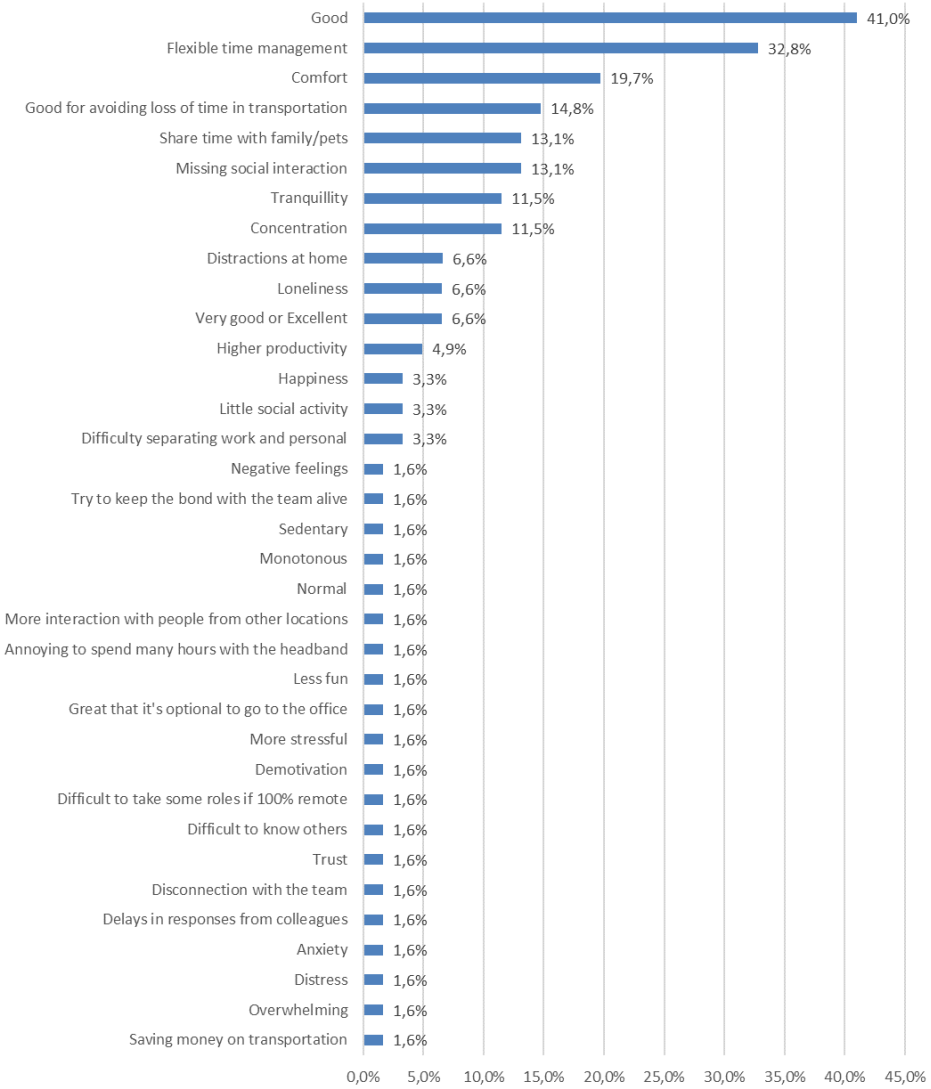

Figure 3.7: Q: How have you been feeling working remotely? - Company B

The following section delves into participants' emotional responses to: *Now, we want to evaluate in the last few weeks, the days that you have worked remotely, how long you have felt the following emotions*, referring to the set of 10 positive and 10 negative emotions. As documented earlier, using the Positive and Negative Affect Scale. This scale employs a 5-point range, extending from "Never" to "Always," and, similar to survey A, we employ the same

simplification approach of three points (N/H/A) and NR for no response.

Positive Emotions

Always or Most of the Time: A substantial proportion of participants consistently experience positive emotions, with the majority reporting feeling interested (80.3%), active (78.7%), attentive (77.0%), determined (72.1%), enthusiastic (65.6%), strong (62.3%), and proud (54.1%).

Half of the Time: When considering positive emotions experienced half of the time, the prevalent ones include feeling inspired (26.2%), alert (23.0%), and proud (21.3%).

Never or Sometimes: Among the positive emotions encountered less frequently when working remotely, the less common ones are feeling alert (41.0%), excited (32.8%), and inspired (24.6%).

Table 3.7 displays the frequency of positive emotions reported by individuals working remotely at Company B.

Freq	Enthusiastic	Interested	Determined	Excited	Inspired	Alert	Active	Strong	Proud	Attentive
A	65,6%	80,3%	72,1%	49,2%	45,9%	34,4%	78,7%	62,3%	54,1%	77,0%
H	13,1%	11,5%	14,8%	16,4%	26,2%	23,0%	11,5%	14,8%	21,3%	14,8%
N	19,7%	6,6%	11,5%	32,8%	24,6%	41,0%	8,2%	16,4%	19,7%	6,6%
NR	1,6%	1,6%	1,6%	1,6%	3,3%	1,6%	1,6%	6,6%	4,9%	1,6%

Table 3.7: Positive emotions - Remote - Company B

Negative Emotions

Always or Most of the Time: Negative emotions, notably including feelings of jitteriness (10.0%), distress (6.6%), and nervousness (3.3%), were reported to be frequently experienced. However, it's important to note that these emotions were less prevalent in this category.

Half of the Time: Some negative emotions, including feeling jittery (15.0%), distressed (13.1%), nervous (6.5%), and irritable (4.9%) were reported as occurring half of the time, indicating that they are not as frequent as the positive emotions reported by the participants.

Never or Sometimes: On the other hand, negative emotions like feeling hostile, scared, ashamed, afraid, guilty, upset and irritable were reported as occurring never or sometimes. The majority of participants did not report experiencing these emotions most of the time.

Table 3.8 displays the frequency of negative emotions reported by individuals working remotely at Company B.

What could organizations do for a better work from home experience?

Freq	Scared	Afraid	Upset	Distressed	Jittery	Nervous	Ashamed	Guilty	Irritable	Hostile
A	0,0%	1,6%	1,7%	6,6%	10,0%	3,3%	0,0%	1,6%	0,0%	0,0%
H	1,6%	1,6%	1,7%	13,1%	15,0%	6,6%	1,6%	1,6%	4,9%	0,0%
N	96,7%	95,1%	95,0%	78,7%	73,3%	88,5%	96,7%	95,1%	93,4%	98,3%
NR	1,6%	1,6%	1,7%	1,6%	1,7%	1,6%	1,6%	1,6%	1,6%	1,7%

Table 3.8: Negative emotions - Remote - Company B

In response to the question about improvements that could enhance the work-from-home experience: *Do you think the company could do something it hasn't done yet so you can work better from home?*, participants provided various suggestions and recommendations, as it is shown in Figure 3.8.

The majority of respondents (65.6%) expressed that no specific changes or enhancements were needed, indicating their contentment with the current work-from-home arrangement.

Some participants (4.9%) suggested that office set-up benefits could be provided to improve the remote work experience. This may include assistance in creating a more ergonomic and productive home office environment.

Additionally, an equal number of participants (4.9%) recommended sending gifts to collaborators as a median to enhance the work-from-home experience.

A small group (3.3%) proposed having remote activities to maintain team cohesion and engagement while working remotely. These activities might include virtual team-building exercises or online social events.

One respondent (1.6%) suggested the idea of delivering office-related articles directly to employees' homes, eliminating the need for employees to pick them up themselves.

Similarly, a single participant (1.6%) highlighted the importance of home office expenses support, indicating that financial assistance for setting up a functional home office would be beneficial.

Furthermore, a participant (1.6%) recommended better follow-up and emotional support for remote employees. This might involve improved communication and support systems to address the emotional and mental well-being of employees.

Lastly, another respondent (1.6%) stressed the significance of remaining attentive to the needs of employees working from home. This could encompass a range of considerations, such as addressing specific challenges or providing additional resources.

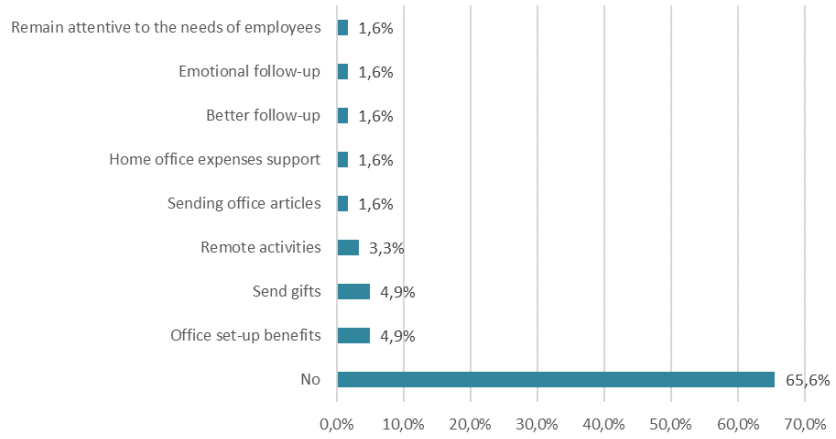

Figure 3.8: Q: Is there anything you think the company could do to make your work from home better? - Company B

3.3.1.2. Emotions, feelings and findings while working at the office

Figure 3.7 presents the various emotions and thoughts reported by survey participants when they go to the office to work, by answering: *Can you describe in one sentence how you feel on the days you go to the office? Tell us about what feelings and emotions going to the office provokes in you and how you feel at the end of the day.*

The most prevalent positive emotions include feeling good (19.7%), experiencing pleasure (13.1%), and happiness (11.5%). Additionally, some respondents mentioned feeling glad (8.2%) and comfortable (6.6%) when heading to the office, suggesting a generally positive emotional experience.

On the other hand, a range of emotions related to negative feelings was also reported. Some respondents indicated experiencing fatigue (13.1%) or a lack of motivation (4.6%) when going to the office. Single participant mentioned feeling overwhelmed by noise (1.6%) or anxious due to commuting (1.6%). It's noteworthy that respondents expressed a mix of both positive and negative emotions in the context of going to the office, reflecting the complexity of their experiences.

In addition, the findings from the survey reveal a spectrum of thoughts and comments shared by participants regarding their days spent working at the office. A significant percentage of respondents (39.3%) highlighted the value they place on social interaction in the workplace.

Conversely, around 14.8% of participants expressed feeling less productive

during their office workdays. This suggests that the traditional office environment may not be conducive to maintaining the same level of efficiency that individuals experience in remote work settings. It is indicative of potential challenges encountered in the office, affecting overall productivity.

Another noteworthy observation is the significance placed on team building, mentioned by 11.5% of participants. This highlights the belief that physical presence in the office fosters team cohesion and collaboration.

While some employees benefit from the social aspect of office work, 9.8% reported difficulties in concentrating during office-based work. This suggests the existence of potential distractions or challenges unique to the traditional office setting, which can hinder focus and productivity.

In addition, nearly 10% mentioned that going to the office results in longer working hours, potentially due to time spent commuting or the structure of office-based workdays. This raises important considerations about the work-life balance of employees when working at the office.

Smaller segments of participants (4.9%) noted challenges in feeling included within established teams, while another 4.9% found office work useful for collaborative problem-solving and teamwork. This dichotomy suggests that the office environment can either facilitate or hinder the integration and collaboration of employees, depending on various factors.

A minor portion (3.3%) expressed increased productivity during office workdays. For a respondent (1.6%), the office provided a stronger sense of connection with colleagues. Additionally, another participant (1.6%) found it easier to disconnect from work when going to the office, creating a distinct boundary between work and personal life.

A participant mentioned investing extra effort in planning their workdays while in the office (1.6%). Others viewed office work as necessary from time to time, signifying a flexible approach to work arrangements.

Now, we will explore the emotions encountered by participants during their office workdays, applying the same simplification method as used for emotions and feelings in remote work settings (N, H, A, NR).

Participants were asked to reply for the same set of 10 positive and 10 negative emotions: *We want to evaluate in the last few weeks, the days that you have worked in the office, how long you have felt the following emotions.*

Positive Emotions

In terms of positive emotions experienced during office workdays, the fol-

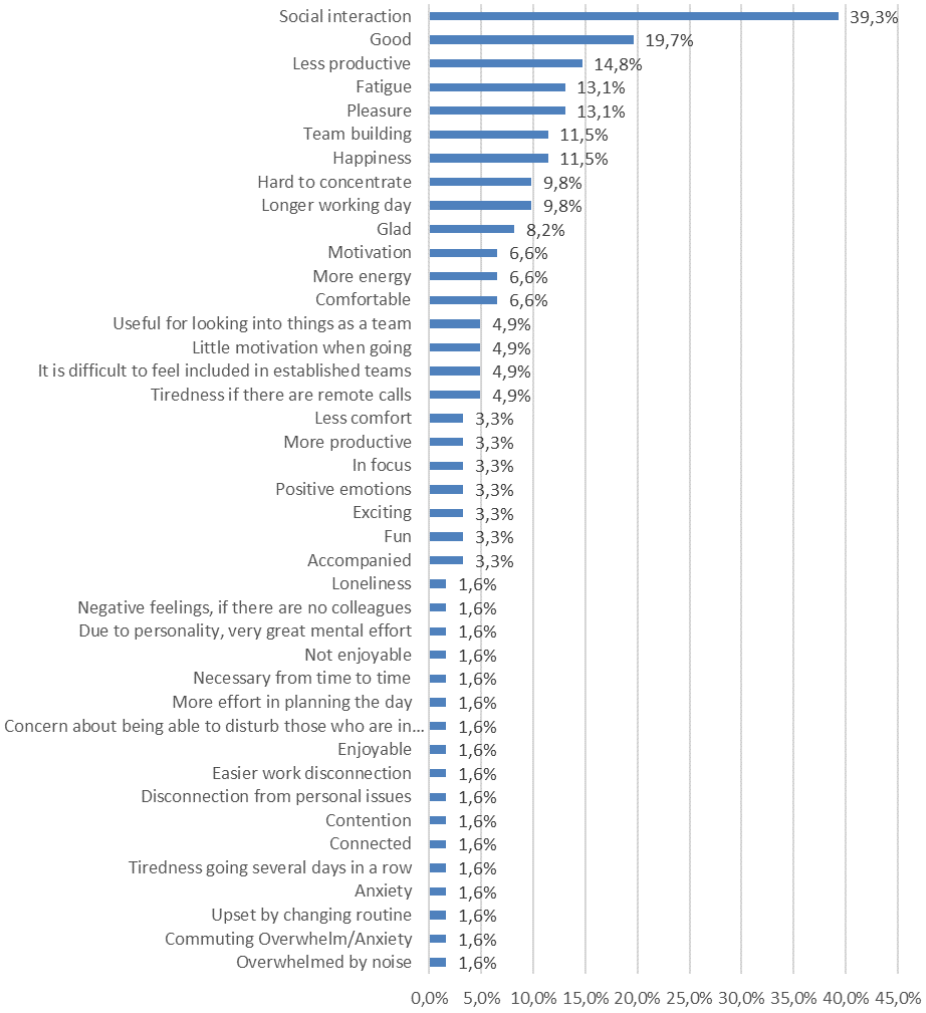

Figure 3.9: Q: How have you been feeling when going to the office? - Company B

lowing emotions were the most relevant:

Always or most of the time: Participants frequently reported feeling determined (50.9%), interested (50.9%), and attentive (50.9%) during their office workdays.

Half of the time: During half of their office workdays, respondents commonly experienced feelings of being enthusiastic (22.8%) and proud (24.6%).

Never or sometimes: Positive emotions, such as alertness (35.1%), excitement (28.1%) and inspiration (28.1%), were occasionally experienced by participants during their office workdays.

Table 3.9 displays the frequency of positive emotions reported by individuals working at the office at Company B.

Negative Emotions

Freq	Enthusiastic	Interested	Determined	Excited	Inspired	Alert	Active	Strong	Proud	Attentive
A	43,9%	50,9%	50,9%	33,3%	35,1%	28,1%	49,1%	42,1%	31,6%	50,9%
H	22,8%	21,1%	19,3%	21,1%	19,3%	19,3%	22,8%	19,3%	24,6%	17,5%
N	15,8%	10,5%	12,3%	28,1%	28,1%	35,1%	8,8%	17,5%	21,1%	14,0%
NR	17,5%	17,5%	17,5%	17,5%	17,5%	17,5%	19,3%	21,1%	22,8%	17,5%

Table 3.9: Positive emotions - At the office - Company B

Always or most of the time: A small percentage of respondents indicated experiencing feelings of being distressed (7.0%), feeling jittery (7.0%) and being nervous (3.6%) most of the time while working at the office.

Half of the time: In this category, some participants reported feelings of being jittery (12.3%), nervous (5.4%) and upset (5.3%) during half of their office workdays, although the prevalence remained relatively low.

Never or sometimes: The majority of participants expressed that negative emotions were infrequent during their office workdays. The emotions such as being upset (75.4%), feeling guilty (77.2%), irritable (82.5%), scared (78.9%), and afraid (75.4%) were reported as seldom occurring. This suggests that these negative emotions were not prevalent during office workdays for most participants.

Table 3.10 displays the frequency of negative emotions reported by individuals working at the office at Company B.

Freq	Scared	Afraid	Upset	Distressed	Jittery	Nervous	Ashamed	Guilty	Irritable	Hostile
A	1,8%	3,5%	1,8%	7,0%	7,0%	3,6%	1,8%	1,8%	0,0%	1,8%
H	1,8%	3,5%	5,3%	7,0%	12,3%	5,4%	7,0%	3,5%	0,0%	0,0%
N	78,9%	75,4%	75,4%	68,4%	64,9%	71,4%	73,7%	77,2%	82,5%	80,7%
NR	17,5%	17,5%	17,5%	17,5%	15,8%	19,6%	17,5%	17,5%	17,5%	17,5%

Table 3.10: Negative emotions - At the office - Company B

3.3.1.3. Working mode preference

The figure 3.10 provides valuable insights into participants' preferences for their ideal work arrangements. They were asked to complete the following multiple option question: *Which work arrangement do you prefer?*. Notably, a diverse range of choices emerged, highlighting the evolving landscape of work modes and employee expectations.

A significant portion of respondents, amounting to 16.4%, expressed a strong preference for a 100% remote work arrangement. This group envisions a work structure where they can predominantly work from the comfort of their homes or remote locations, embracing the flexibility and convenience it offers.

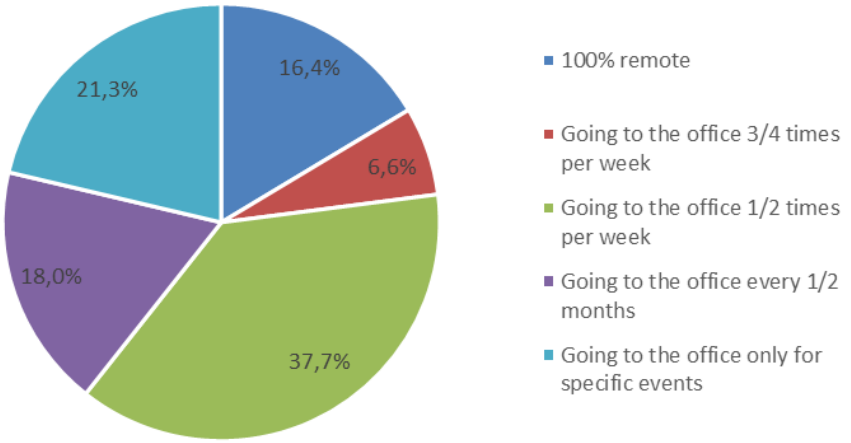

Figure 3.10: Q: Which work arrangement do you prefer? - Company B

In contrast, 6.6% of participants leaned towards a semi-remote schedule, opting to go to the office three to four times per week.

The majority, comprising 37.7% of respondents, leaned toward a part-time office schedule. They favored visiting the office once or twice a week while embracing remote work for the rest of the workweek. This choice reflects a desire for a hybrid work model that combines the benefits of both in-office and remote work.

Another distinctive group, representing 18.0% of participants, revealed a preference for less frequent office visits, approximately once every two months. This choice suggests a desire for flexibility in office attendance and aligns with a more occasional, event-driven approach to in-person work.

Furthermore, 21.3% of respondents exhibited a preference for using the office exclusively for specific events or occasions. This finding highlights the significance of physical presence in particular circumstances, underlining the importance of in-person interactions for certain aspects of work.

Additionally, when inquiring about the impact of commuting time on the decision to go to the office, the majority of participants (67.2%) responded affirmatively by selecting "Yes".

3.3.1.4. Working tools and communication

The figure 3.11 offers a glimpse into the various modes of communication and connection that participants employ in their daily work interactions. With a set of options, participants were asked to respond: *How connected are you with the rest of the team during the workday?*.

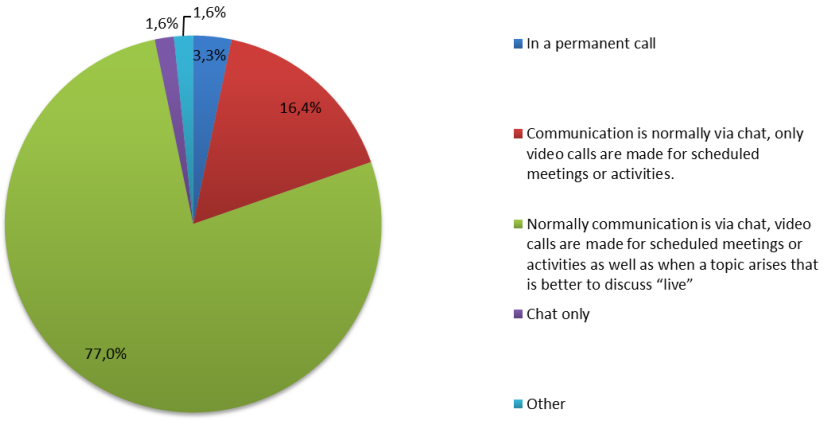

Figure 3.11: Q: How connected are you with the rest of the team during the workday? - Company B

A small fraction, representing 3.3% of respondents, indicated that they maintain a permanent call during their work hours.

Conversely, a substantial portion, amounting to 16.4%, reported that communication within their team primarily transpires via chat. They employ video calls exclusively for scheduled meetings or specific activities. This choice highlights an organized approach to video interactions, reserving them for planned and structured discussions while using chat for more routine communication.

The majority of respondents, comprising 77.0%, expressed that their typical communication approach involves chat as the primary medium. They augment this with video calls, which are used not only for scheduled meetings and activities but also when a topic arises that benefits from real-time discussion. This choice reflects an adaptive and dynamic mode of communication, prioritizing the flexibility of both chat and video calls as needed.

A participant, 1.6%, exclusively rely on chat for all their team communication, indicating a preference for text-based interactions over real-time video or voice communication.

Lastly, another 1.6% of participants indicated "Other", suggesting that

there may be alternative or unique communication methods they employ to stay connected with their team members.

Figure 3.12 provides valuable insights into the preferred work tool communication platforms used by survey participants in their work environments. From a set of known communication tools, participants where asked to respond: *What work communication tools do you use?*. These platforms play a pivotal role in facilitating communication and collaboration within teams and organizations.

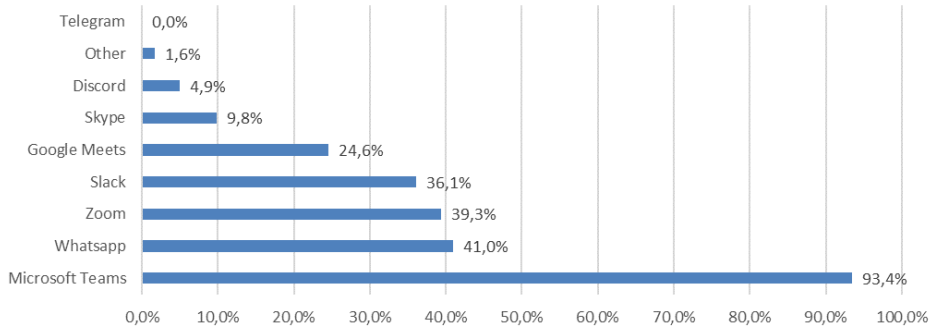

Figure 3.12: Q: What work communication tools do you use? - Company B

Notably, Microsoft Teams emerges as the dominant choice, with a substantial 93.4% of respondents using this platform for their work-related communication. This high adoption rate suggests that Microsoft Teams is a widely embraced and integrated tool for team interactions, enabling various communication and collaborative features.

Whatsapp also stands out as a popular choice, with 41.0% of participants utilizing it for work-related communication. Its prominence indicates that some respondents find value in leveraging this mobile messaging application for professional interactions.

Zoom and Slack are also selected by a significant portion of respondents, with 39.3% and 36.1%, respectively. These platforms are recognized for their functionality in video conferencing (Zoom) and team messaging and collaboration (Slack), making them essential tools for many survey participants.

Google Meets is used by 24.6% of respondents, demonstrating the appeal of Google's platform for video meetings and virtual collaborations.

A smaller but notable fraction, 9.8%, opted for Skype as their work tool of choice. Skype's longevity and familiarity in the realm of video calls and messaging remain present in a segment of remote workers.

Additionally, 4.9% of respondents chose Discord, a platform known for its use in gaming communities but also adapted for professional communication. This choice reflects the adaptability of technology for work purposes.

A single respondent (1.6%) selected "Other", which suggests the existence of alternative or less common tools, and in this case it refers to using the communication tool suggested by the client.

Notably, Telegram did not register any responses, indicating that it is not a commonly employed work tool for communication among the surveyed participants.

3.3.2. Discussion Company B

3.3.2.1. Open questions about feelings and emotions:

Considering the prevalent sentiments and viewpoints expressed by a substantial majority of respondents, accounting for over around 15% of the participants, the discussion is focused on their experiences on days spent working at the office and those spent working from home. The findings are categorized in positive aspects and challenges for each work environment:

Positive Aspects of Working at the Office When it comes to this question, there was a low percentage of consensus regarding thoughts and feelings while working from the office.

- Social interaction (39.3%): A significant percentage of participants highlighted the role of the office environment in promoting social interaction.
- Good (19.7%): A notably percentage associated feeling good with working at the office.

Challenges of Working at the Office

- Less productive (14.8%): A substantial portion of respondents mentioned that they feel less productive when working from the office.

Positive Aspects of Working from Home

- General positive feeling (41.0%): The most commonly mentioned aspect by respondents was their expression of feeling OK while working remotely.

- Comfort (19.7%): A significant percentage highlighted the comfort of working from home. This indicates that many individuals consider their home environment to be a comfortable and conducive workspace.
- Avoiding Transportation Time Loss (14.8%): A smaller percentage recognized the advantage of time saved from not having to commute. This highlights one of the practical benefits of remote work, which includes a reduction in the stress and time associated with commuting.

Challenges of Working from Home

No single challenge was reported by more than 15% of the respondents, although the most frequently mentioned challenge was:

- Missing social interaction (13.1%): Some respondents expressed a challenge in missing social interaction while working remotely.

In summary, the responses shed light on the diverse array of sentiments and viewpoints related to various work arrangements. While the positive aspects of working at the office did not reveal a strong consensus, social interaction and the general feeling of wellness were prevalent themes. Notably, challenges encountered at the office primarily included a sense of reduced productivity. In contrast, remote work held distinct positive attributes, with the majority expressing an overall positive feeling. The comfort of the home environment and the time saved by eliminating commuting stood out as other favorable aspects. On the downside, challenges in the remote work environment lacked a predominant concern, although missing social interaction was frequently mentioned.

3.3.2.2. Multiple choice questions about feelings and emotions:

Analyzing the median scores for this group of defined emotions, we can discern subtle distinctions in the different work environments. Table 3.11 presents the median values, with the "Non-response" option disregarded, where the scale corresponds to 1 (Never) and 5 (Always). The key observations are summarized as follows:

Participants reported a significantly higher median feeling of pride (median difference = 1.00) when working remotely compared to the office.

The median feeling of excitement was also higher when working remotely, with a median difference of 0.50.

Variable	Median Remote feeling	Median Office feeling	Median difference
Proud	4,0	3,0	1,00
Excited	3,5	3,0	0,50
Active	4,0	4,0	-
Afraid	1,0	1,0	-
Alert	3,0	3,0	-
Ashamed	1,0	1,0	-
Attentive	4,0	4,0	-
Determined	4,0	4,0	-
Distressed	2,0	2,0	-
Enthusiastic	4,0	4,0	-
Guilty	1,0	1,0	-
Hostile	1,0	1,0	-
Inspired	3,0	3,0	-
Interested	4,0	4,0	-
Irritable	1,0	1,0	-
Jittery	2,0	2,0	-
Nervous	1,0	1,0	-
Scared	1,0	1,0	-
Strong	4,0	4,0	-
Upset	1,0	1,0	-

Table 3.11: Comparing median of emotions - Company B

Intriguingly, the remaining considered emotions, including "Active", "Afraid", "Alert", "Ashamed", "Attentive", "Determined", "Distressed", "Enthusiastic", "Guilty", "Hostile", "Inspired", "Interested", "Irritable", "Jittery", "Nervous", "Scared", "Strong", and "Upset" display no substantial difference in median scores between remote and office work. This suggests a consistent experience of these emotions, irrespective of the work location.

3.3.2.3. Working mode preference

The study's results uncover a range of work preferences among respondents, showcasing a preference for going to the office once or twice per week as the most favored option (37.7%). Interestingly, a notable portion opted for less frequent office visits, either exclusively for specific events (21.3%) or every one or two months (18.0%). This diversity underscores the evolving nature of work arrangements, highlighting the prominence of flexible and varied approaches

to in-person work engagements.

3.3.2.4. Working tools and communication

Company B has evidently designated Microsoft Teams as the primary standard for internal communication. Nevertheless, a variety of tools supplement this, with WhatsApp (41.0%), Zoom (39.3%), Slack (36.1%), and Google Meets (24.6%) emerging as prominent alternatives. Noteworthy is the diverse array of daily communication methods employed in remote work scenarios. While text-based chat remains prevalent, the recognition of the importance of real-time communication is evident, providing employees with the flexibility to engage promptly when needed.

3.4. Discussion

3.4.1. Discussion of findings

Surveys were conducted with two software companies in Uruguay. Although these companies do not represent the entire sector in the country, as they are merely examples of the diverse business models that exist, they provide an interesting framework for analyzing emotions and feelings in similar work environments.

The findings offer valuable insights for organizations operating in similar contexts. A company may identify with one of the surveyed organizations if they share similarities in areas such as the recommended frequency of office attendance, flexibility for remote work, and demographic characteristics like the predominant age group of employees, job satisfaction, perceived needs for improvement in remote work, and organizational culture, which is particularly complex to evaluate.

Despite the limitations regarding the representativeness of the surveyed companies, the results provide relevant data. It was observed that, in general, the emotions experienced by workers do not vary significantly between remote work and office work. However, when specifically examining the feelings associated with each mode, notable differences emerge: while office work generates emotions such as pleasure, happiness, and fatigue, working from home is associated with feelings of comfort and tranquility. This divergence reflects a distinct perception of each work environment.

Furthermore, perceived benefits were identified in each mode. In remote work, key advantages include flexibility in time management and the elimination of time lost to commuting, although challenges such as distractions and the lack of social interaction were also noted. On the other hand, in the office environment, social interaction and team-building were valued, even though commuting extends the overall workday.

While it is important to consider the reality of each employee, we believe that a hybrid model can achieve a good balance of the benefits provided by both work environments. However, several questions arise: How many days per month or week in the office are most appropriate for the team to maximize the benefits of both modes? Does this need to occur in the office, or could it take place in a more convenient location for everyone? Should these be workdays or integration days, potentially achieving the same or even better results?

3.4.2. Threats for validity

In this study, several threats to validity were identified and addressed.

Internal validity: In order to address potential issues with the survey design and minimize internal validity threats, a pilot test was conducted prior to the full study. This test allowed for the identification and correction of ambiguous or leading questions, and ensured that the survey was functioning correctly. However, it is important to note that the pilot test was conducted on a small, convenience sample, which may not have fully represented the diversity of experiences and interpretations among the broader population of workers. As a result, some internal validity threats, such as subtle biases in question interpretation, may still persist in the final survey.

External validity: This validity of the results is limited by the specific demographic characteristics of the sample, which consisted of workers of two Uruguayan software companies, potentially limiting the generalizability of the findings to other companies in Uruguay, or other regions or cultures.

Construct validity: The use of Microsoft Teams as a standard for both companies may influence the construct validity of the study by standardizing the communication experience. It may limit the ability to detect differences in emotional responses that could arise from using different tools or platforms. As a result, the findings may not fully capture the impact of diverse commu-

nication environments on the emotions of remote and hybrid workers.

In addition, to minimize the subjective nature of emotions, a definition on the multiple option questions was added. However, experiences poses challenges in ensuring that the survey accurately captured the intended constructs.

Finally, the response rate of 35% in company A and 24% in company B raises concerns about non-response bias, where those who did not participate might have experienced different emotional states, further limiting the generalizability of the results.

Chapter 4

Concluding remarks and future work

Exploring the realm of well-being and the emotional experiences of individuals working in the software industry has garnered significant attention since 1998. While preferences for remote work vary among individuals and companies based on diverse scenarios and realities, it is imperative to emphasize that, whether working from home or in a traditional office setting, sustaining a healthy organizational environment necessitates fostering a substantial level of well-being and cultivating a positive emotional balance among workers.

A Systematic Mapping Study (SMS) was conducted to investigate the impact of remote work on emotions and well-being, revealing numerous studies with a heightened interest during the COVID-19 pandemic. The primary focal points of examination included prominent emotions and sensations such as well-being, anxiety, motivation, feelings of being overworked, stress, and boredom. However, an important question remains: how do individuals perceive their remote and hybrid work conditions after the pandemic restrictions were lifted?

Building on the findings of the SMS and incorporating questions from previous surveys, a survey was conducted to explore the current feelings of software workers in two Uruguayan companies regarding remote and hybrid work setups.

From our analysis on the survey, there is no clear difference in the presence of emotions between both work modalities (remote and in-office). However, there are individuals who have reported the occurrence of certain negative feel-

ings with a relatively high frequency. While they may not constitute a majority, these individuals may not be experiencing their best moments. Therefore, it is essential to identify and offer the necessary support to enhance their workplace well-being.

Various positive aspects and challenges were reported for both work scenarios. For instance, the social interaction and team building facilitated by office work are highly valued by a significant number of workers, often leading to feelings of happiness and satisfaction. However, this comes at the cost of fatigue and longer working days due to commuting. On the other hand, remote work is appreciated for its comfort and flexible time management, but it is susceptible to interference from home distractions.

While some of these aspects may seem obvious, we emphasize the importance of thorough research to genuinely understand how people feel, rather than relying solely on perceptions. Additionally, we found significant value in consistently providing individuals with opportunities to express themselves. This approach fosters a more accurate understanding of what holds the highest value in each work modality. Furthermore, by identifying the challenges and inconveniences experienced by employees, we can explore potential improvements to enhance the overall well-being of collaborators in the workplace.

As part of the results of this thesis, a summary report was created for each company, detailing how employees felt about working from home or in a hybrid setup. Additionally, we offered our assistance to provide in-depth analysis of the data and to address any questions they might have.

This study develops two valuable tools: an SMS that compiles information from previous empirical studies on feelings and emotions in software teams, and an empirical study conducted in two Uruguayan software companies. These contributions not only advance research in the field but also shed light on a relatively unexplored geographical area in this subject.

Future work can expand upon this study in several ways. The SMS can be extended to include additional sources and broaden the search criteria, incorporating alternative terms for the main concepts to uncover related articles that may have been missed. Conducting future searches will also reveal new studies that were not available at the time of our initial search. Furthermore, more in-depth analysis of the data gathered from the survey can be undertaken to identify any statistical relationships among different variables. Additionally, distributing the same survey to a wider audience will provide a

more comprehensive understanding of how software workers are feeling, both within Uruguay and on a regional and global scale.

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APPENDICES

Appendix 1

Primary search process

1.1. Search 1

2nd April, 2022

Having searched: *("software industry" OR "software engineers" OR "software development") AND ("Remote work" OR "WFH" OR "Work from home" OR "Hybrid work") AND ("Feelings" OR "Effects")* at Scopus, 7 results were obtained. 6 of them passed the first stage.

1.2. Search 2

2nd April, 2022

Simplifying and making our search more generic: *("software") AND ("Remote work" OR "Work from home" OR "Hybrid work") AND ("Feelings" OR "Effects")* at Scopus, 26 results were obtained. 19 of them were new and 2 of them passed the first stage.

1.3. Search 3

23th April, 2022

Having searched: *("software") AND ("Remote work" OR "Work from home" OR "Hybrid work" OR "home-based work") AND ("Feelings" OR "Effects" OR "Mental well-being" or "emotions")* at Scopus, 31 results were obtained. 20 of them were new and 2 passed the first stage.

Almost all of them have been included in previous searches. Only one must be read for the final decision to be included.

In addition, other 6 articles that could contribute with extra information were detected.

After reading all abstracts and keywords, new keywords have been suggested to be included in the next search:

- Information Technology (IT)
- Teleworking

1.4. Search 4

24th April, 2022

Adding **Teleworking** to our search:

*("software") AND ("Remote work" OR "Work from home" OR "Hybrid work" OR "home-based work" OR "**teleworking**") AND ("Feelings" OR "Effects" OR "Mental well-being" or "emotions")*

at Scopus, 40 results were obtained. 9 of them weren't already considered in previous searches. None of them match our criteria to be included in our study, but 3 of them contributes with extra information.

1.5. Search 5

24th April, 2022

Adding **IT** to our search:

*("software" OR "**IT**") AND ("Remote work" OR "Work from home" OR "Hybrid work" OR "home-based work" OR "teleworking") AND ("Feelings" OR "Effects" OR "Mental well-being" or "emotions")*

at Scopus, 342 results were obtained. The amount of results was increased more than 8 times and making a quick review, most of new results do not meet with our criteria. For that reason, the "IT" concept is discarded.

1.6. Search 6

24th April, 2022

Removing **IT** and adding **Information Technology** to our search:

*("software" OR "**Information Technology**") AND ("Remote work" OR "Work from home" OR "Hybrid work" OR "home-based work" OR "teleworking") AND ("Feelings" OR "Effects" OR "Mental well-being" or "emotions")* at Scopus, 76 results were obtained. 36 were new articles to consider. After reading the corresponding titles and abstracts 7 articles are considered interesting to be read.

After making a quick read, 3 of them were considered to be included. While other two were considered to contribute with extra information.

Something interesting is that there are many articles since the emergence of the COVID pandemic that mention Information Technology talking about other areas and the inclusion of IT in them, but in previous years interesting articles emerged about how remote work was already being evaluated and its influence on people at personal level (emotions, family) and work level (performance).

1.7. Search 7

1st May, 2022

Adding **Agile** to our search:

*("software" OR "Information Technology" OR "**Agile**") AND ("Remote work" OR "Work from home" OR "Hybrid work" OR "home-based work" OR "teleworking") AND ("Feelings" OR "Effects" OR "Mental well-being" or "emotions")*

at Scopus, 79 results were obtained. 3 were new articles to consider. After reading the corresponding titles and abstracts 2 articles are considered to be included.

1.8. Search 8

1st May, 2022

Adding **Behaviour** to our search, considering also the US version **behavior**:

*("software" OR "Information Technology" OR "Agile") AND ("Remote work" OR "Work from home" OR "Hybrid work" OR "home-based work" OR "teleworking") AND ("Feelings" OR "Effects" OR "Mental well-being" or "emotions" or "behaviour" OR "**Behaviour**" OR "**behavior**")*

at Scopus, 101 results were obtained, 22 new articles to consider. There were 3 of them considered as relevant. In addition, another article is considered to contribute with extra information.

1.9. Search 9

1st May, 2022

Adding **satisfaction** to our search:

*("software" OR "Information Technology" OR "Agile") AND ("Remote work" OR "Work from home" OR "Hybrid work" OR "home-based work" OR "teleworking") AND ("Feelings" OR "Effects" OR "Mental well-being" or "emotions" or "behaviour" OR "Behaviour" OR "behavior" OR "**satisfaction**")*

at Scopus, 123 results were obtained, 22 new articles to consider. There were 3 of them considered as relevant. In addition, other 6 articles are considered to contribute with extra information.

1.10. Search 10

8th May, 2022

Adding **e-work** to our search:

*("software" OR "Information Technology" OR "Agile") AND ("Remote work" OR "Work from home" OR "Hybrid work" OR "home-based work" OR "teleworking" OR "**e-work**") AND ("Feelings" OR "Effects" OR "Mental well-being" or "emotions" or "behaviour" OR "Behaviour" OR "behavior" OR "satisfaction")*

at Scopus, 140 results were obtained, 17 new articles to consider. None of them was considered as relevant.

1.11. Search 11

3rd July, 2022

A few months later, we applied the same search to consider new items being indexed:

("software" OR "Information Technology" OR "Agile") AND ("Remote

work" OR "Work from home" OR "Hybrid work" OR "home-based work" OR "teleworking" OR "e-work") AND ("Feelings" OR "Effects" OR "Mental well-being" or "emotions" or "behaviour" OR "Behaviour" OR "behavior" OR "satisfaction")
at Scopus, 154 results were obtained, 14 new articles to consider. 6 of them were selected.

1.12. Search 12

3rd July, 2022
By other means, we found an article that meets our requirements but was not in our search results. Analyzing the reasons, we realized that the term "mental well-being" could be simplified to "well-being". As for this article they only mention "well-being". Replacing "Mental well-being" for **well-being** in our search:
("software" OR "Information Technology" OR "Agile") AND ("Remote work" OR "Work from home" OR "Hybrid work" OR "home-based work" OR "teleworking" OR "e-work") AND ("Feelings" OR "Effects" OR ***"well-being"*** *or "emotions" or "behaviour" OR "Behaviour" OR "behavior" OR "satisfaction")*
at Scopus, 159 results were obtained, 5 new articles to consider. All of them were considered as relevant, but the mentioned article was not found. We decided to include the article to our study.

Appendix 2

Survey

2.1. Preguntas

2.1.1. Introducción

En este estudio buscamos comprender qué impactos (negativos o positivos) produce el trabajo remoto o híbrido a las distintas personas que trabajan en el área de construcción de software. Además, se busca poder conocer qué actividades o beneficios pueden mejorar o desfavorecer al bienestar de cada individuo según sus circunstancias, preferencias, necesidades y roles.

La encuesta es totalmente anónima y voluntaria. No se pide en la encuesta ni tu nombre ni ningún otro dato de identificación directa. La encuesta consta de serie de preguntas abiertas y valoraciones sobre el trabajo híbrido y las emociones, así como una sección de datos generales.

El equipo que analizará las preguntas será extremadamente reducido y no corroborará los datos generales con las respuestas abiertas (esto para evitar toda posible identificación de una persona).

Por último, te alentamos a que completes la encuesta con total sinceridad y transparencia. Esto dará valor a los distintos trabajadores del sector, para comprender cómo las distintas personas se pueden estar sintiendo en esta forma de trabajo.

Para no distorsionar los resultados, te pedimos muy encarecidamente que llenes la encuesta una única vez.

2.1.2. ¿Aceptas continuar con la encuesta?

- Deseo continuar la encuesta
- Prefiero no realizar la encuesta

2.1.3. ¿Cómo te has sentido en las últimas semanas trabajando desde casa?

Cuéntanos qué sentimientos y emociones, tanto positivos como negativos, has experimentado al trabajar desde casa y de cómo te has encontrado

2.1.4. ¿Qué tan a menudo vas a la oficina?

- Todos los días
- 3 o 4 veces por semana
- 1 o 2 veces por semana
- Cada 2-3 semanas o 1 vez por mes
- Sólo en eventos particulares
- Nunca (100% remoto)

2.1.5. ¿Puedes describir en una frase cómo te sientes los días que vas a la oficina?

Cuéntanos acerca de qué sentimientos y emociones te provoca ir a la oficina y cómo te encuentras al finalizar la jornada.

2.1.6. ¿Crees que la empresa ha colaborado con tu trabajo desde casa? ¿De qué manera?

2.1.7. ¿Consideras que la empresa ha hecho algo que genera dificultades en tu trabajo desde casa? ¿De qué manera?

2.1.8. ¿Crees que la empresa podría hacer algo que aún no ha hecho para que puedas trabajar mejor desde casa?

2.1.9. ¿Qué modalidad de trabajo prefieres?

2.1.10. Ahora, queremos evaluar en las últimas semanas, los días que has trabajado remoto cuánto tiempo has sentido las siguientes emociones:

- Figura 2.1
- Figura 2.2

2.1.11. De manera análoga, queremos evaluar en las últimas semanas, los días que has trabajado en la oficina cuánto tiempo has sentido las siguientes emociones:

- Figura 2.3
- Figura 2.4

2.1.12. Los días que trabajas de manera remota:

2.1.12.1. ¿Qué tan conectados están con el resto del equipo durante la jornada laboral?

- En una llamada permanente
- Normalmente la comunicación es por chat, sólo se realiza videollamadas para reuniones o actividades programadas

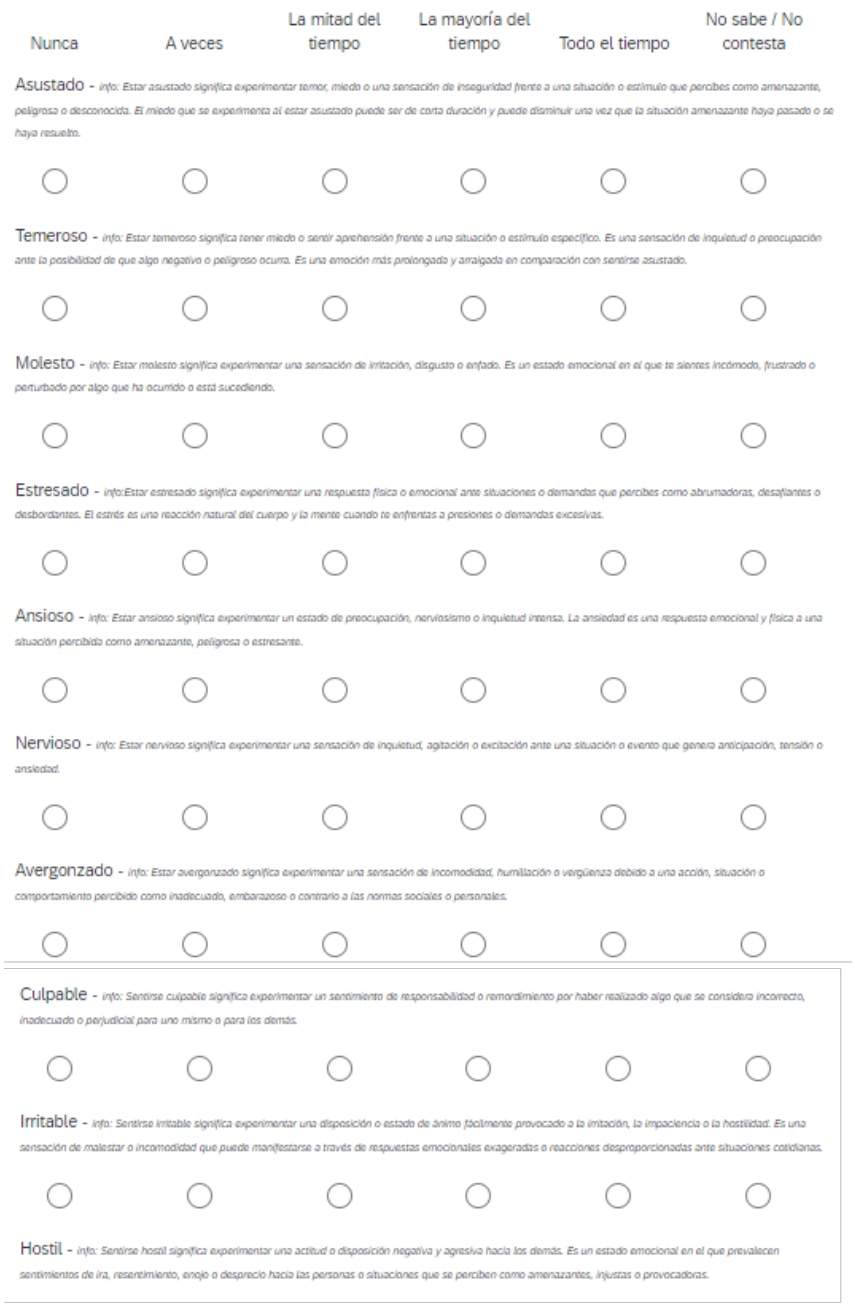

Figure 2.1: Negative emotions question - Remote

- Normalmente la comunicación es por chat, se realiza videollamadas para reuniones o actividades programadas así como también cuando surge una temática que es mejor discutir "en vivo"
- Sólo por chat
- Otro, especifica:

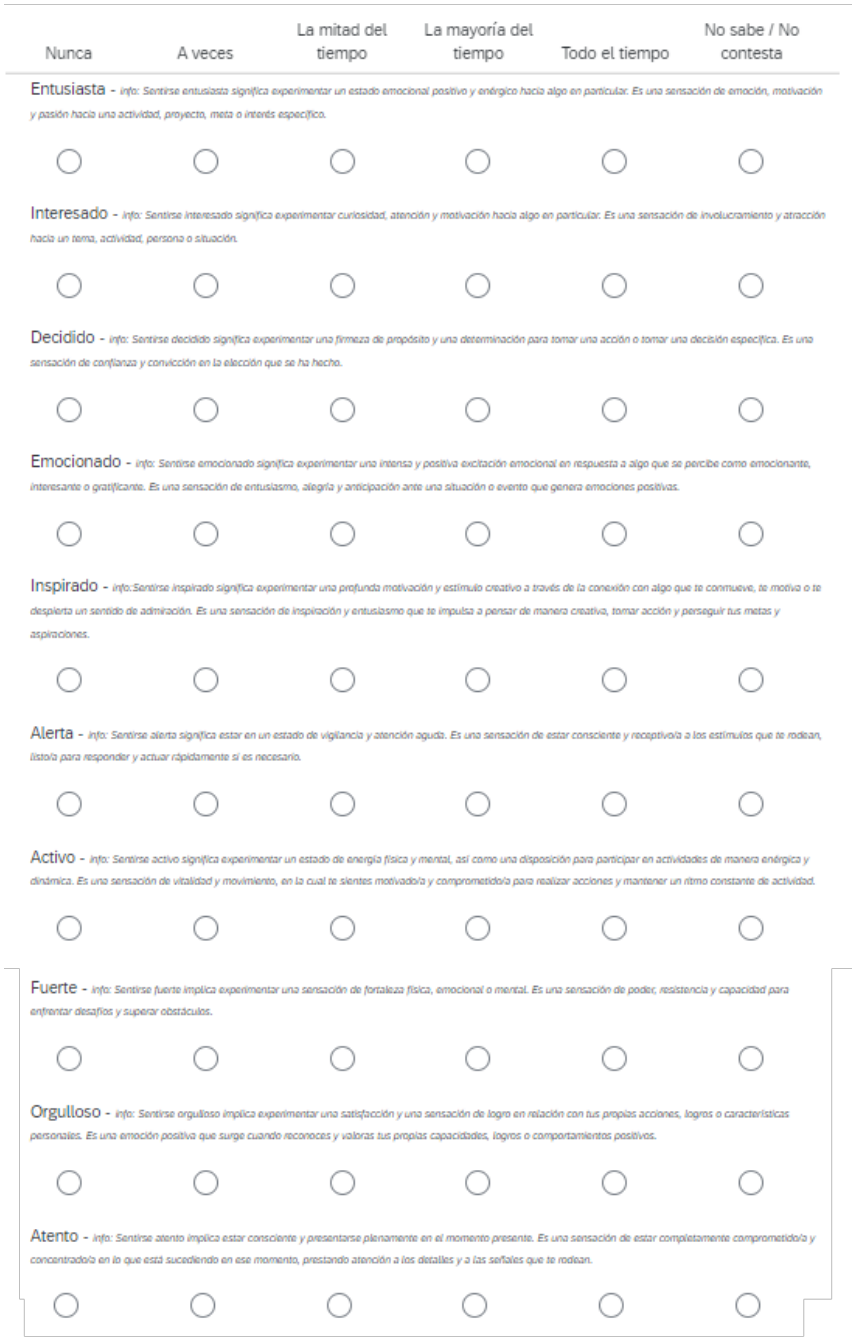

Figure 2.2: Positive emotions question - Remote

2.1.12.2. ¿Qué herramientas de comunicación laboral utilizan?

1. Microsoft Teams
2. Slack
3. Zoom

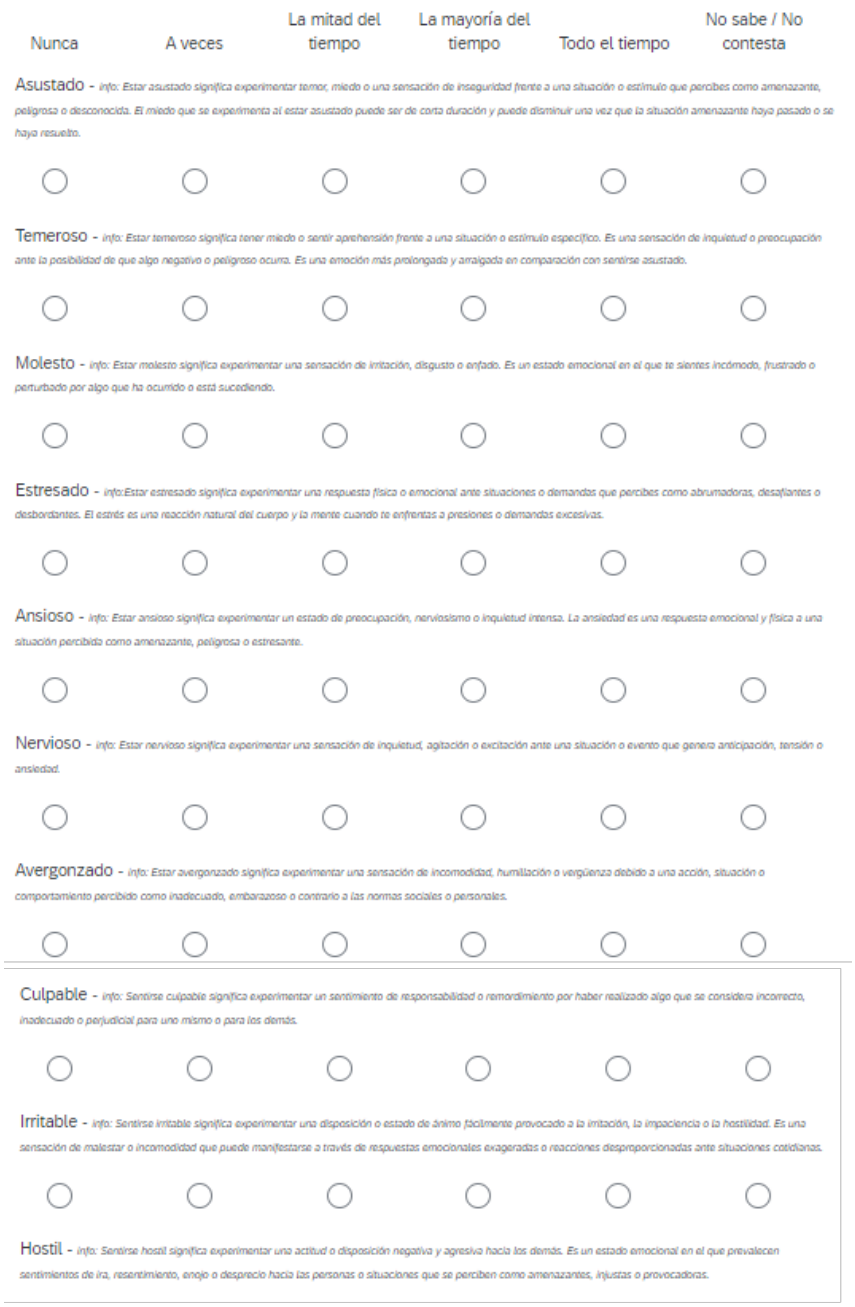

Figure 2.3: Negative emotions question - Office

4. Google Meets
5. Whatsapp
6. Telegram
7. Otro, especifica:

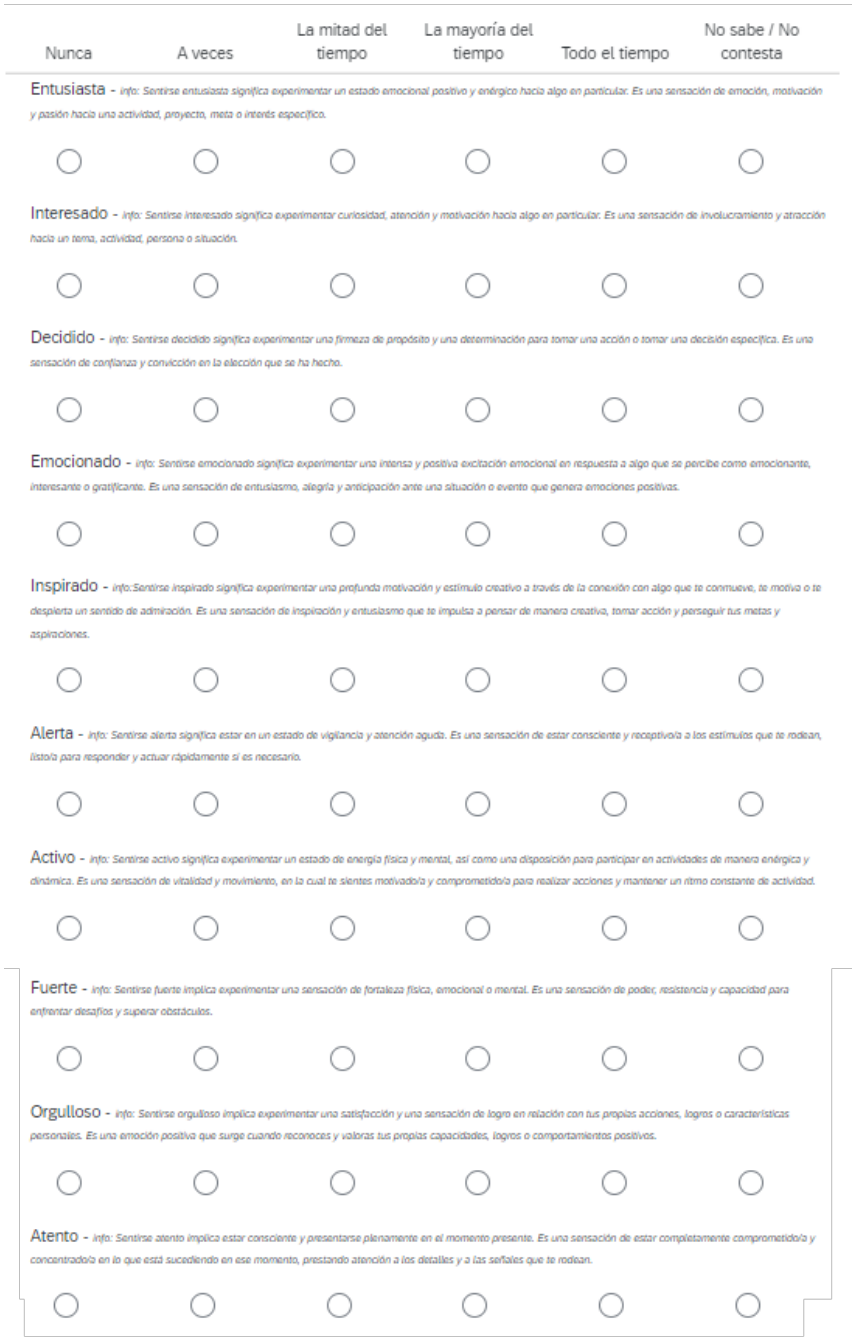

Figure 2.4: Positive emotions question - Office

2.1.12.3. ¿Puedes describir qué pasos sigues a la hora de solicitar la asistencia "en vivo" de alguno de tus colegas?

2.1.13. Considerando los beneficios, salario, oportunidades, etc. Del 1 al 5, siendo 1 para nada satisfecho y 5 muy satisfecho

2.1.13.1. ¿Qué tan satisfecho estás con tu empleo?

2.1.13.2. ¿Quieres hacer algún comentario al respecto?

2.1.14. Sobre las siguientes afirmaciones sobre las condiciones laborales desde casa, contesta si estás Muy en desacuerdo (1) a Muy de acuerdo (5)

- A menudo me distraigo de mi trabajo (p. ej., vecinos ruidosos, niños que necesitan mi atención)
- Soy capaz de concentrarme en mi trabajo por períodos de tiempo largos
- En mi oficina en casa, tengo lo necesario para hacer el trabajo que necesito hacer (una computadora y conexión a Internet adecuados, acceso a software necesario, etc)
- La silla y el escritorio de mi oficina son cómodos y están diseñados para prevenir el dolor de espalda u otros problemas relacionados.

2.1.15. ¿Cuántos años tienes?

2.1.16. Tu trabajo principal es:

- Full time
- Part time
- Otro. Especifica:

2.1.17. ¿Cuáles de los siguientes describen mejor tus roles principales?

- Analista de negocio
- Arquitecto
- Desarrollador (back, front o mobile, SAP, otros)

- Líder técnico de desarrollo
- Gestor de proyectos (project manager)
- Gestor de servicio / Facilitador operativo
- Gestor Comercial
- Tester (accesibilidad, performance, manual, automatizado, otros)
- Test manager / test leader
- Diseñador e investigador UX/UI
- Core operativo
- Coach ágil

2.1.18. ¿Cuántas personas viven contigo, incluyéndote a ti?

2.1.19. ¿Cuántas de esas personas son menores de 12 años?

2.1.20. ¿Con qué genero te identificas?

- Mujer
- Varón
- No binario
- Prefiero no decir
- Otro. Especifica:

2.1.21. ¿Cuál es el máximo nivel de educación que has alcanzado?

- Educación primaria incompleta
- Educación primaria completa
- Educación media incompleta
- Educación media completa
- Educación terciaria incompleta
- Educación terciaria completa
- Educación universitaria incompleta
- Educación universitaria completa o superior

2.1.22. ¿Cuántas horas aproximadamente has estado haciendo ejercicio en la última semana?

2.1.23. En un día normal, ¿Cuánto tardas en llegar aproximadamente a la oficina desde tu lugar de residencia?

- 1' - 10'
- 11' - 20'
- 21' - 30'
- 30' - 45'
- 45' - 60'
- 1h - 1h 30'
- 1h 31' - 2hs
- Más de 2 hs

2.1.24. ¿Crees que la demora es una molestia a la hora de considerar ir a la oficina?

- Si
- No